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One of the greatest stumbling blocks, in the way of the orchardist and fruit grower, in the United States, is the almost endless catalogue of names of indifferent fruits, now in general cultivation.

Where there is one curious amateur, who wishes to make a museum of his grounds, to exhibit or to test every procurable variety of fruit, there are thousands who are anxious to plant only a few of the best and most valuable sorts. Where can they obtain information touching this selection? The nurseryman puts into their hands his catalogue, in which there are probably 200 kinds of pears recommended; mostly "delicious," "excellent," "first-rate;" very few, indeed, being marked "second rate," "poor," or "*worthless.*" Yet, almost every honest and experienced fruit grower, who has tested 200 sorts of pears, will tell you frankly that he finds it difficult to name over 20 or 30 sorts really worthy of cultivation!

Horticultural societies are instituted mainly to advance the taste for the intelligent culture of fruits and flowers. Yet, we regret to say, year after year, our leading horticultural societies permit numberless varieties of fruit to be exhibited at their annual shows, which are known by their fruit committees, to be quite unworthy of cultivation. Indeed, the public generally, which goes to admire and learn, have, at these exhibitions, no means of judging of the comparative value attached by the society to any one of the varieties exhibited. Not only is the public debarred, (for various good reasons,) from making actual trial of samples for themselves, but that part of the society which does possess this kind of knowledge, sits in secret session in its committee room, and instead of affixing (as we conceive they ought to do,) labels, No. 1, No. 2, No. 3, &c., to designate the estimation in which the society holds all known and tried sorts, they remain silent, and allow the novice, captivated by exterior charms, to embark in the pomological lottery, where blanks are ten times as numerous as prizes; instead of hanging out a friendly light over the shoals and breakers, which they know by heart, they quietly allow the inexperienced navigator to strand himself on the same bars; and only when he is high and dry, does some member cry out—"Oh, if you had come to me, privately, I could have told you that there are only twenty pears really worth growing!"

It is quite natural and proper, that nurserymen should collect and propagate for sale

every variety of fruit which is spoken of, either at home or abroad, as possessing superior qualities; for that is their legitimate business. And so long as people continue to estimate nurseries (as we suppose many persons do,) by the size of their catalogues, there will be no lack of long lists. Nurserymen will retain old sorts, which they admit to be of little or no value, because other nurserymen put them into their catalogues, and because buyers order such sorts, which they do, from real ignorance of their demerits.

But if any one, who has at heart the benefit of the whole community, will consider for a moment, the loss of time, money, and satisfaction which this state of things forces upon the country at large, he will quickly see the great importance, if the thing is possible, of endeavoring to winnow the wheat from the chaff; in a few words, of putting the public in possession of the experience of those who really know what are the good and valuable sorts, and what those unworthy of cultivation.

A man ignorant of fruit culture wishes to plant an orchard. He goes to a nursery and takes, of the varieties in general cultivation, the usual proportion of the sorts grown by the nurseryman. After ten or fifteen years, his orchard comes into bearing, and he finds that not more than half the varieties are precisely those which he ought to have planted; they are either of inferior quality, indifferent bearers, or are quite unprofitable cumberers of the ground. Here are ten or fifteen years lost; to say nothing of the difference in value between the indifferent and the superior fruit, and the vexation of ascertaining that a little knowledge at the outset, would have secured perfectly satisfactory results, first rate fruit, and profitable crops.

It may be said that it is the business of pomological writers to make known the merits of varieties, and to guide public opinion in this respect. This is quite true, and, to a certain extent, they do effect this object. But pomological writers are not omniscient; and there are many who distrust the capacity of a pomologist, or a society, in one section of the country, for pronouncing upon the value of certain fruits in another section. So, after all, beginners are largely at the mercy of catalogues, and orchards abounding with poor fruit are planted, where orchards of the best fruit only ought to grow.

Our attention is drawn to this subject, at the present moment, by an examination of the circular for the *national pomological convention*, to be held in New-York this autumn, of which a copy will be found in a subsequent page. This convention will, no doubt, be attended by persons from most of the northern and western states at least; and we observe one distinct feature in its plan which appears to us to be one of great importance. It is to be composed not merely of fruit growers, nurserymen, pomologists, and amateurs, of experience, but of such persons of this class as may be selected and sent as *delegates* to the convention, from the different horticultural societies in various parts of the country.

Now, if the different horticultural societies would weigh well the importance of this subject, and each send a delegation composed of the ablest fruit growers and fruit judges in their districts, it appears to us that a convention would be formed which would embody the best part of the pomological information in the country; that such a convention would be able, this season, to make at least a commencement towards clearing away some of the rubbish of pomology, that has actually and by general consent been ascertained to be rubbish; and that, if thought advisable, its meetings

could be adjourned from year to year, while its labors were found useful to the country.

Every horticultural society embraces within its numbers, at least two or three men, whose experience and knowledge of fruit is far in advance of that of the country about them. They are not always those most desirous of attending conventions, nor are they those who would perhaps offer themselves to the society as delegates. But they are those whose services would really be most valuable to the country at large, and who should be prevailed upon to go to the convention. Such men are Mr. THOMAS, of Macedon, Dr. KIRTLAND, of Cleveland, Mr. WALKER, of Boston, etc., who, even if they were not members of the horticultural societies in their neighborhood, should be solicited by such horticultural society to represent them in this convention, because their local and general experience in the culture of fruits is such as renders them the proper representatives of the pomological knowledge of their sections of the Union.

The action of an annual convention of this kind, composed of the ablest fruit growers, nurserymen and pomologists of the Union, would, we think, be of incalculable benefit to horticulture, and to the country generally. Nurserymen would be gainers; because, by publishing lists of sorts which a convention, composed of the best judges from all parts of the country, considered unworthy of cultivation, the increased labor, perplexity, and cost of propagating, accurately, long catalogues of varieties would be avoided; fruit growers would be gainers, because the collective experience of the whole country, when thus brought unanimously to the approval or disapproval of any variety, would leave no doubt on their mind as to its value; and, the country at large would be gainers, because fruit tree planting would soon cease to be done in the dark, as to the merit of tested varieties at least, and the present abundance of inferior fruit in our markets, would give place to an equal or greater abundance of fine fruit.

If we have made this as clear to the minds of the active members of the various horticultural societies as it is to us, we shall hope to see a horticultural convention assembled in New-York in October, such as has not yet been brought together anywhere in America,—such a convention as the *congress of vine-dressers* in France,—a convention that will fairly represent the highest pomological intelligence of all parts of the country—the soundest practical judgment of all the horticultural societies (now some thirty in number,) in the Union.

Some of our correspondents have expressed their regret that the time of this convention was not fixed upon an earlier day in the autumn, when fruits are more abundant. This does not appear to us important, at least for a first meeting. It seems to us that the first and most important duty of such a convention, is to compare notes and revise the past. This is what none of our horticultural societies can possibly do, since their materials are all local; while they can and do ascertain, in part, the value of all new varieties that are exhibited from time to time at their shows.

The second greatest benefit that we can hope from such a pomological convention, is the comparison of fruits, and consequent identification of numerous synonymous varieties, known under different names in various parts of the country. This can only be done by a series of meetings, held at *different periods* in the year, and therefore must be a matter mainly for further

arrangement, after the convention is once successfully organized.

The following remarks on this subject are from the pen of Mr. BEECHER. They were written for the meridian of Indiana; but are so entirely apposite to the subject, that our readers will be glad to see them published here:

"Already the varieties of hardy fruits have become so numerous, that not only can they not all be cultivated, but the mere list of names is too bulky to be printed. Downing's book gives a list of 181 apples. The London Horticultural Society's Catalogue, expurgated at that, gives 900 kinds of apples, and 1500 have been tested in the society's gardens. Manning's experimental grounds and nursery at the time of his death, contained 1000 named varieties of the pear! Swollen as is the list, there are scores annually added; many, under the advice of scientific bodies; many have popular approbation; many, from the partialities of some parental nurseryman; and many come in, as evil came into this world, no one can tell how.

"It has become necessary, therefore, to exclude many from the catalogue, and especially necessary that none should enter without the very best passport. In the main, one set of tests will serve, both for receiving and expurgating; for no matter how long a fruit has been on the list, it should be ejected if, being out, its qualities would not gain it a fresh admission. There are no hereditary rights, or rights of occupancy, in pomological lists.

"Titles, rank, antiquity, pedigree and other merciful means of compensating a want of personal merit, may do for *men*, but not for *apples*. A very glorious pomological reformation broke out in the London Horticultural Society's gardens at Chiswick, and that Luther of the orchard, Mr. Thompson, has abolished an astonishing number of sinecures, and reformed, if not worthless rotten boroughs, very worthless apples and pears. The society's first catalogue, issued in 1826. Its third catalogue was published in December of 1842. The experience of the intervening sixteen years, led to the total rejection from their list, on the ground of inferiority, or as synonyms, of 600 varieties of apples; 139 of cherries; 200 of gooseberries; 82 of grapes; 80 of strawberries; 150 of peaches; 200 of pears; and 150 of plums. Only *twenty-eight* peaches are allowed to stand; and only *twenty-six* strawberries out of the hundreds that were proved. We have no similar society in the United States, whose authority would be generally acknowledged. Our only resource is the diffusion of the very best fruits, that every neighborhood may have a standard of comparison by the reduction of experience to the form of rules. Although it is difficult to lay down general rules on this subject, there are three which may be mentioned.

"1. *No fruit should be admitted to the list, and none retained upon it, which is decidedly poor.*—One would suppose this truism to be superfluous as a rule. But it is only necessary to go out into seedling orchards in any neighborhood in this vicinity, to find small, tough, and flavorless apples, which hold their place along side of orchards filled with choice grafted fruit.

"2. *No seedling fruit should be added to the list, which is in no respect better than those, of the same period of ripening, already cultivated.*—It is not enough that an apple is nearly or quite as good as another favorite apple. It must be *as* good in flavor, and better in some of its habits.

"3. *In testing the merits of fruit, an estimate should be the result of a consideration of all the habits, jointly, of the tree and of the fruit.*—It is in the application of this rule that great experience, and judgment are required. This will be plain, if one considers how many essential particulars enter into a first-rate fruit besides mere flavor.

"Of two fruits equal in flavor, one may surpass the other in tenderness of flesh, in juiciness, in delicacy of skin, and in size. It is rare that any single fruit combines all these excellencies, and therefore it is, that we retain several varieties, among which such properties are distributed.

"There are many fruits which, having good substance and flavor, derive their value from some single peculiarity. Thus, a fruit may be no better than many others,

but the tree, blooming very late in spring, is seldom overtaken by prowling and irregular frosts. Some of our best fruits, have stingy bearing trees, or trees of very tender and delicate habit; and we are obliged to tolerate more hardy and prolific trees with fruit somewhat inferior.

"A few fruits are retained on the list because they have the singular property of being uninjured by frosts, and others because, though not remarkable for flavor, they are endless keepers, of both which properties the Rawle's Jennetan of this region is an example.

"In fruits designed for market, beauty and abundance must be allowed to supercede mere excellence of flavor. Some very rich fruits are borne in such a parsimonious way that none but amateurs can afford tree room.

"Nor are we to overlook nursery qualifications; for, of two fruits equally good, preference should be given to that which will work the kindliest in the nursery. Some will bear grafting on the root, some will not; some take well by budding and grow off promptly and with force; others are dull and sluggish, and often reluctant to form the new partnership. While then it will always be to the nurseryman's interest to work such kinds as he can sell the most of, he has a right, in so far as he directs the public judgment of his neighborhood, to give a preference, among equal fruits, to such as work the surest, and strongest. It is as much the interest of the purchaser and the public to have the freest growing sorts, as it is the nurseryman's interest. Thus, if another Seckel pear could be found growing on the tree of William's *Bon Chretien*, it ought to supplant the old Seckel tree; which, in spite of its incomparable fruit, is a vexatious thing to manage; and, as often in the case of other and fairer fruit, makes one wonder how such amiable and beautiful daughters ever had such a surly and crusty old father.

"A pomological censor must also have regard to varieties of taste among men, and to commercial qualities of fruit; and to its adaptation to soil and climate.

"Nor are the humbler tests of cooking to be overlooked. Some fruits are good eaters and poor cookers; some cook well but are villanous to the taste when raw; some will stew to a fine flavor and sweetness *without sugar;* and some have remarkable jelly properties. But after the largest allowance is made for taste, hardiness, keeping, prolific bearing, colour, size, texture, season, adaptation to soils, &c. &c., there will be found, we think, a large number of tenants in our nurserymen's catalogues, upon whom should be instantly served a writ of ejectment."

THE CULTIVATION OF GRAPES IN POTS.

BY JOHN SPENCER, BOWOOD, ENGLAND.

[THREE of our correspondents, within the last month, having requested information on the subject, we reprint, from the *Gardeners' Chronicle*, the following very valuable article, by a practical gardener in England, which we recommend to the attention of those growing foreign grapes under glass. ED.]

The first impulse given to fruiting vines in pots was by a paper in the "Horticultural Register for 1831," by Mr. G. Stafford, then gardener at Willersly Castle, in Derbyshire, and which at the time elicited much surprise. Through him I became practically acquainted with the system he followed; and since then having been more or less engaged annually in preparing and fruiting a considerable number of vines in pots, I can safely bear witness to the successful results that will follow the practice detailed below.

After fixing on the kinds of vines you intend growing, the first thing to be done is to procure eyes (or buds) of the required

kinds, from some known good bearing vines, taking care to have the wood perfectly hard and ripe, with the eyes prominent and round. If the vines are intended to be fruited the next season, the eyes should be potted in 32-pots, placing them one inch below the surface, and using soil of a light turfy nature, or if stiff, adding a portion of half decayed leaves; only one eye must be planted in each pot. This should be done early in February, and when finished the pots containing the eyes may be plunged in any pit or frame that may be at work, where a bottom-heat can be maintained of 90°, or thereabouts. They may remain there until growth has commenced, when sun-light being indispensable to the welfare of the young plants, they should be placed (if they were not previously,) as near the glass as possible, sinking the pots as the plants reach the glass, but still keeping a steady bottom-heat, and supplying them with air every day if possible. It is supposed that the heat of the frame or pit varies from 60° to 90° in sunshine. When the pots are filled with roots, which will be some time in April, they may be transferred at once into their fruiting pots, which should be 2s or 4s, according to the strength you wish your vines to attain; bearing in mind that those in the smaller size will ripen their wood earlier, and consequently be available for forcing at an earlier period than the others. This operation will bring us to a consideration of the description of soil or compost most suitable for the vine. When growing naturally out of doors the vine will flourish in a variety of different soils and composts; but when its roots are confined in so small a space as a pot, we must place within the action of its roots that kind of soil from which it can most readily assimilate the elements which constitute its food. After trying nearly all the different composts recommended by the numerous authors on the vine, I am convinced that the more simple the constituents of the soil are for it, or any other kind of pot-plant, the more successful will be the results. The compost I use is two-thirds turfy loam, from a down having a chalky bottom, and one-third decomposed night-soil. Should the loam be strong, I use the same proportion of half rotten horse-droppings. The turves in the loam should only be half decayed, and it should be used as rough as possible.

After potting, the plants should be placed in some house or pit where a temperature from 60° to 80°, or 85°, is maintained; they should also be so arranged that the shoots as they advance can be trained immediately under the glass, and be exposed as much as possible to the light. The front kerbs and back shelves of pine-pits are suitable places, and the partial shade that the vines afford, benefit the pines during three or four of the summer months. Where there is only a vinery they may be trained between the permanent vines, or in any other place where the cultivator can make room for them. As the shoots advance train them carefully, and stop the laterals as they appear. When first potted the plants will want but little water, but it must be gradually increased as the pots become filled with roots; they will then require it regularly during their growth, and manure water may occasionally be given, although the quantity they demand the first season is small in comparison to what they require afterwards. The most suitable length of cane for pots is from four to six feet, but if from any peculiarity in the house, in which they are to be fruited, a longer length may be required, they should be left accordingly, as the vine will grow strong enough for fruiting, 8, or even 10 feet long. After it has grown a foot more than the length required the next season, it should be stopped; three or four of the upper laterals, however, may be allowed to grow at a few joints, to prevent the topmost eyes breaking. Manure water may now be applied to cause the buds to swell, and care must be taken to preserve the principal leaves, as they are now performing a most important part in regard to the crop next season. When the wood appears to be turning brown (or ripening,) water should only be applied to prevent the vines flagging, the laterals should be taken off, and every means should be employed to ripen the wood perfectly. Indeed, if it is not convenient to allow a large admission of air when they are growing, it would benefit them much by removing them to a cool house, where they would have the be-

nefit of more air and a lower temperature at night. By the beginning of September, if the former directions have been followed, the vines will be ripe enough to place out of door. The north side of a wall is the best place, and the pots should be laid on their sides, and every means taken to throw the plants into a state of rest; the cultivator will thus find himself in possession of vines which for strength and vigorous habits may justly be mistaken for older plants.

It will be seen, then, that the principles acted on above are, selecting properly matured wood for cuttings—inserting only one eye in each pot to prevent any check to the plant in re-potting—placing them at once in the pot in which they are to fruit—exposing them during their growth to the greatest possible amount of light you can give them, taking especial care to have the wood perfectly ripe, and inducing an early state of repose. But if the above mode of obtaining fruiting vines for one year, should be thought too troublesome, from the plants requiring bottom-heat during their first stage, the eyes may be planted singly, as before, in 48-pots, and set in any house or pit where there is a little heat; they will be longer, however, by this method in developing their roots, and may not want shifting into larger pots before May or June. When the plants may be shifted into 24s, in which they may remain through the season, in any house or pit in which room can be found for them, paying attention to watering, tieing up, &c. They may be stopped when 2 or 3 feet high, and when the wood is fully ripened, removed out of the house and plunged in any material out of doors that is a non-conductor of heat. In February or March, cut these plants down to two or three eyes, shake them entirely out of their pots, and place them in similar sized pots to fruit in as the former ones, taking care to spread their roots (in potting) regularly through the soil, and when growth commences, each spongelet may be in immediate contact with food; this is a much better practice than placing them in a pot without disturbing the ball, as is often done. The same routine of management must be followed with these through the season, as recommended for the others. From the larger amount of organizable matter the vine possesses by this mode of treatment, they will generally be found stronger than those raised the same year, and they possess the advantage of ripening their wood earlier in the summer. It will depend on the means the cultivator has at his disposal which plan he follows.

The next consideration is the time when you wish your grapes to ripen; this being ascertained, it is easily known when forcing ought to commence. It may be stated that vines under the above mentioned treatment will be ready for forcing early in November, and consequently will ripen their crop by the end of March. As the principal use of vines in pots here are kept to occupy the houses (where vines are planted on the outside) during the period that they are inactive, say from November to May, those in pots are generally forwarded in their first stage in any pit or house whose temperature may happen to suit them, and, finally, when the wood of the permanent vines is sufficiently ripened to allow of their being placed outside, the pots are taken in and arranged in their places on shelves put up for the purpose; by these means the houses are of far more use than if they remained empty nearly half the year. However, the precise mode in which the vines are to be fruited depends on the kind of houses the cultivator has at his command; a flued pit answers well; but the best description of houses is that which admits the rays of the sun to pass through it in the winter at as near right angles as can be. Such a house, admitting considerably more light during the winter months, is much more suitable for such a plant as the vine than low flat houses. Whatever the house is, if not perfectly ready for the vines when you wish to begin forcing, get them placed in a dung frame where you can give them a moist heat of 55°, this will cause their buds to swell regularly, and prepare them for their removal to the fruiting-house, when ready, without losing time. Previous to losing their leaves in the autumn, they may, if thought advisable, be disbudded on Roberts' system, leaving a few more buds than you want bunches; but one objection to this system is, that if by any accident through the winter the bud should get injured, it leaves a blank which,

had the next buds remained, might easily have been supplied.

The number of bunches that may be left on each vine will depend on the soil, size of the pot, &c. When the vines are strong, and No. 2 pots are used, I usually leave six or seven bunches on the Hamburgh, the same on the Sweetwater, and one or two more on the Muscadine. If the vines are not so strong, four or five bunches on the Hamburgh will be sufficient. It is much better to have rather fewer bunches and the berries fine and well coloured, than ill-coloured puny bunches, which always is the case when too many are left on the vine. The vines from being placed in the house, presuming their buds to be swelled, must have their temperature raised from 55° fire-heat to 65° when in bloom, and it will be better if this heat by night is never exceeded; of course, on all days when there is no likelihood of sun-heat, the heat of the house should be raised 5° or 10° by artificial means. Air should be admitted by some means or other *every day* early; this is of consequence, or the leaves are apt to get damp, and their texture being so extremely thin, when the hot sun and drying winds of March act on the foliage, they often burn and shrivel, and consequently are unable to swell off the fruit or give it colour. During all the time the vines are in a fruiting state, manure water in some shape or other must be frequently given. Dung water is made of various ingredients, but in whatever way it is made, it ought to ferment before using and should be applied in a pure state, and at a temperature equal, at least, to that of the house. The draining from farm-yards is always good and safe. I use manure water, made by pouring nearly boiling water on equal parts of sheep or deer dung and fresh horse-droppings; this is fined by a lump of fresh lime, is drawn off clear, and when used is diluted with equal parts of rain water. A very weak solution of guano is beneficial, but great caution is required in using it. It is astonishing during the period of active growth, what an immense quantity of dung water vines will take. I have frequently watered them twice a day with it, and this I prefer to placing bottom-pans or feeders under the pots, as is often done. If the dung water is properly cleared and diluted, it may be given twice for fresh water once; when the grapes are fully swelled, and beginning to colour, water must be more sparingly applied, using clean water only. The flavor of grapes is often spoiled by being over-watered when ripening their fruit, by the proper proportion of carbon and water, which constitutes the saccharine matter in grapes, being destroyed and water formed in excess.

When the fruit is ripe, if the house is wanted for other purposes, the plants may be removed to any dry house or room, where the grapes will keep until wanted.

The varieties I have found best for early forcing are, the Hamburgh, Dutch Sweetwater, and Muscadine. The small-berried varieties, as the Esperione and others, are hardly worth growing, compared with the above. Muscats, and all the delicate sorts, as the Frontignan, answer admirably later in the season, and thus the amateur and those who possess but a small extent of glass may cultivate all the varieties of grapes procurable in British nurseries, at but a trifling additional expense.

Although I have given directions how to render fruitful vines in one season, yet, when a stock is once acquired they may be kept for years in a fruitful state, by resting them at alternate seasons. Thus those plants which have fruited in spring may be turned out of their pots into a border, where they will require no farther trouble until the following spring, when they may be taken up, their roots reduced in some degree, and placed in pots again, planting them deeper than they previously were; they may then have the same management as young plants, and will make very strong canes in the course of the summer. I have vines in pots now in fruit that have borne three or four previous crops. When the cultivator prefers boxes to pots, they may be used, from 14 to 16 inches square, which will be quite large enough; they can be packed on shelves more closely together than pots, and are more handy to move about.

By the above process grapes may be procured by the end of March and April, without interfering with those planted outside, and I would particularly recommend its

adoption by amateurs possessing small establishments, as affording them a means of prolonging their grape season; besides being productive of gratification and pleasure. It is to this class of gentlemen in particular that I wish the foregoing remarks to be addressed. Although it would be a considerable addition to small places, yet in the large establishments at Tedworth, under Mr. Sanders, and at Tottenham Park, (Mr. Burns) it is an essential feature in their management, and is followed with the most complete success. I imagine the credit of growing plants in one season and fruiting them the next belongs to Mr. Tillans, of Alnwick Castle, who adopted that practice at Woodchester Park, when gardener to the late Lord Ducie.

INTERESTING EXPERIMENT IN VINEYARD CULTIVATION.

BY H. W. S. CLEVELAND, BURLINGTON, N. J.

[THE following account of an experiment in vineyard culture has interested us so much, that, if we felt certain that no other good had resulted from the publication of this journal, than the dissemination of facts of this kind, we should consider our labors in conducting it amply rewarded. Mr. CLEVELAND is one of the most intelligent and reliable horticulturists in New-Jersey. His experiment, and those of "A Jerseyman," and "A Maryland Subscriber," which have already appeared in our columns, we think go very far to establish the fact, that the cultivation of certain kinds of fruit trees, more or less difficult in this climate, such as the pear, the gooseberry, and the grape, is wonderfully facilitated by keeping the surface of the soil covered from the too powerful influence of the atmosphere; and we look upon it, if well established, as a fact worth thousands to fruit growers all over the country.

The *rose*-bug, that pest in almost all very light soils, has hitherto nearly baffled the skill of the cultivator. We recommend, therefore, a repetition of Mr. CLEVELAND's experiment, next season, in various parts of the country where this insect abounds. ED.]

A. J. DOWNING, ESQ.—DEAR SIR: I have been trying an experiment during the present season, which has proved successful; and, as the theory seems to be partly confirmed by communications from two or three different sources in the back numbers of the Horticulturist, I am happy to add my testimony to theirs.

My vineyard consists of between two and three acres; and it has heretofore been my practice to plough between the rows three or four times during the season, thus burying the weeds and making them act as manure. This course has always been liable to objections on several accounts; and last winter, I conceived the plan of covering the ground with some substance which should prevent the growth of weeds, supercede the necessity of ploughing, and afford the shelter to the roots of the vines which in the forest is given by the mat of leaves with which the earth is covered, and from which, in fact, I first took the hint. At first, I began collecting shavings from the carpenters' shops in our village, and having exhausted that source, I raked the drift stuff from the river bank,—consisting of reed grass, leaves and chips, for three miles; and collected enough to cover about a third of my vineyard, three inches deep. The health and vigor of the vines in the part thus treated is so far superior to the

rest, that no one could fail to be struck with it at first sight, and the fruit is much more free from defects of all kinds.

But, one effect has followed, which I did not hope for. My vines are every year so infested with rose-bugs, that during the time they last I have had to employ half a dozen boys almost constantly in destroying them; each boy being provided with a tin cup, with a little spirits of turpentine, into which the bugs are knocked from the vines, which kills them instantly. The boys amuse themselves by making a heap of all they catch; and the pile of the present season would have filled a half bushel measure; but, to our surprise, we found so few bugs, in that part of the vineyard where the ground was covered, that it was often unnecessary to hunt there for them—even when they were so numerous in the rest of the vineyard as to require inspection daily, and sometimes twice a day. The thick mat with which the ground was covered, had evidently either prevented the transformation from the worm to the bug, or else the young bug was too weak to work its way up through it; and the few we found there had been blown or flew from the other side of the vineyard. Whether this object might not have been more thoroughly effected, had the stuff with which the ground was covered been well salted, or laid in a heap with alternate layers of ashes for sometime before using, or whether the same remedy might not be successfully applied for the destruction of curculios, and such other insects as breed in the ground, are questions which I intend to test by experiments, in which I hope other horticulturists will join, and make a report of their experience. The experience of "A Jerseyman," and of "B. H. T.," with a similar experiment on gooseberries, though they attribute much of their success to the salt of the hay and seaweed, and of "A Maryland Subscriber," in covering the roots of pear trees with straw, all go to prove the utility of covering the ground with some kind of vegetable matter, which certainly is in conformity with the dictates of nature; and I cannot help thinking the effect would be good, in extensive vineyards or orchards, of covering the whole ground in the manner described. Very truly yours. H. W. S. CLEVELAND.

Oatlands, Burlington, N. J., Aug. 3, 1848.

EXPERIMENTS IN HORTICULTURE—NO. 1.

BY B., POUGHKEEPSIE, N. Y.

STRAWBERRIES.—Being engaged in a variety of experiments in the cultivation of fruit, and feeling a deep interest in horticultural pursuits, I propose, with the Editor's approbation, to contribute occasionally for the "Horticulturist," a few of the results of ten or twelve years' experience. This number will be devoted to strawberries. It will be perceived, however, that it discusses *practice* rather than *theory*. The vexed "strawberry question" is unknown in my garden, except so far as a practical mingling of the different kinds is attended to, for the purposes of impregnation. Nor have I procured all the different varieties which, from time to time, have been presented to the public, as being superior to all others. I have tried until I found those

which, in quality, and productiveness, and hardiness, are entirely satisfactory, and far beyond my anticipations.

In August, 1837, I commenced by planting a bed of four feet by twenty-five with the "Hudson Bay," allowing three rows, sixteen inches apart, to the bed, and a distance of ten inches between the plants in the row. The next year I planted a like quantity of each of the following kinds, viz: "Keen's Seedling," "Bishop," and the "Prolific Hautbois." They were all planted in adjacent beds, in common garden soil. They all bore well except "Keen's Seedling," which was discarded in 1840. From the other kinds, my strawberry plantation gradually increased to upwards of half an acre prior to 1846, when the "Hautbois" were discarded, in consequence of their inferior quality. In the mean time, the "White Wood Alpine," and some other inferior kinds, were tried and rejected. In 1844, I obtained "Hovey's Seedling," and propagated from it extensively. With a view of testing the different kinds in field culture, in the spring of 1846, I directed my gardener to set out a lot containing about half an acre, in rows three feet apart. He used ten thousand plants; of which, one-half were the "*Large Early Scarlet*," and the other half were "*Hudson Bay*," "*Bishop's*," and "*Hovey's*." The "Hovey's" were planted among the Scarlets. That season they yielded about one hundred and fifty quarts. In 1847, they produced one thousand quarts; and in 1848, eight hundred quarts, although much injured this year by grass, and almost wholly shaded by trees. The soil is a heavy loam, without limestone. It had been under a heavy sod, which was broken up in 1845, and covered with peach trees, at a distance of ten feet apart. The land was not highly manured; as peach trees do best, with us, on unmanured lands, in a good condition. The trees are now in full bearing. As it was designed to occupy the ground with strawberries only two years, they were suffered to run through each other, with no other care than occasional weeding.

The result shows that the "Large Early Scarlet" is the best bearer. The Hudson's ranks next, the Bishop's next, and Hovey's Seedling far—far behind all the others. Indeed, I have tried the latter in various ways, and have never been able to make them bear well; nor have I ever seen them bear one-fourth as much as the Early Scarlets uniformly bear with us. This also agrees with the general experience of cultivators of this fruit in this vicinity.

Strawberries can unquestionably be produced in great abundance, with more ease than any other valuable fruit. With a moderate degree of care and attention, they will yield at the rate of one hundred bushels an acre. They will grow freely on any soil that will give a good crop of corn; and, if planted early in the spring, will yield a fair crop in June thereafter. The kinds above mentioned do not require any covering in winter.

Notwithstanding the facility with which this fruit may be cultivated, several persons in this place are destroying their vines on account of their unproductiveness. The errors into which they have fallen are, that they plant them *in old worn out garden soils*, or *manure them too highly*. It is a common practice to cover the vines with a heavy covering of straw in the fall, and a heavy coat of manure in the spring. The consequence is, that the *vines* grow very luxuriantly but produce no *fruit*. The strawberry succeeds best on a good, deep, new soil; but not excessively rich. On such a soil, with ordinary care, the *Early Scarlet* and *Hudson Bay* will produce to

the entire satisfaction of the most avaricious horticulturist.

Early in the spring is the only *proper* time for planting. They may be planted in August or September; but the chances are ten to one that half or two-thirds of them will be killed by the hot and dry weather. If planted in the spring, not one in a thousand will die. I have abandoned summer planting entirely.

The finest strawberry plantation I ever saw, was in June, 1846, on the left bank of the Liffay, above Phœnix Park, near Dublin. They were growing on a steep side hill, extending along the river for two or three miles, and covered many acres. They were planted very closely in beds,—the hills not more than a foot apart, and kept free from runners. The fruit were beautiful, and the crop enormous. The street is lined with cottages, at which the fruit is sold. Hundreds and thousands of visitors, on foot and in carriages, flock thither from the city, daily, to enjoy the rich treat. The fruit is brought to the visitors from the vines, with the stems on, upon a cabbage leaf, containing about as many as a New-York basket. Upon the table are plates, sugar, cream, and bread and butter, to which each person helps himself *ad libitum*; and pays for the whole, six pence sterling. Our little party, consisting of twelve Americans, directly from the packet, after regaling ourselves with such appetites for fruit as a month's voyage only can create, were *unanimous* in pronouncing the Irish strawberries *first rate*.

A week later, I found in the London markets an abundance of still superior strawberries. They were large, handsome, and of the very highest flavor. They are among the few strawberries that are suitable for "eating out of hand." They were called the "British Queen," and were, no doubt, identical with "Myatt's British Queen," described in "Downing's Fruits and Fruit Trees." B.

Poughkeepsie, August, 1848.

REMARKABLE TREES IN OHIO.

BY JACOB KNOOP, TROY, O.

[The following accurate measurement of some remarkable specimens of trees, from a correspondent of veracity, has interested us very much, and will interest our European readers still more, as illustrative of the fertility of the soil in many portions of the great west. We will be glad to collect more facts of this kind, relating to extraordinary growth and development of trees in various parts of the country. Ed.]

A. J. Downing, Esq —Dear Sir—I have noticed, in the last December number of your valuable journal, on page 269, a description of the Overcup Oak, (*Quercus macrocarpa*,) which I think falls far short of the size which this majestic tree frequently attains; and not doubting that your readers "Down East" would be pleased to see the size of our western productions, I have measured one of these trees, standing on the farm of Messrs. Knoop, about three miles east of Troy. Its exact measurement is as follows: the *diameter*, at one foot above the ground, 16 feet, 11½ inches; at 6 feet above ground, 14 feet, 9 inches. The trunk rises about 50 feet

without limbs, and with scarcely a perceptible diminution in size. The top branches rise 100 feet above the earth.

On the same farm, I observed a PEAR TREE, standing fully loaded with pears; the tree I found by measurement to be 39 1/2 feet high, and 5 feet in circumference four feet above ground, with a beautiful cone-like top.

Near the above tree stood an apple tree, the seed of which was planted in the year 1800, by the late Mrs. KNOOP, which for size, thrift and beauty, I think cannot be excelled. Upon measurement, I found the circumference of the trunk to be 10 feet, 11 inches. Height of tree 42 feet. The diameter of the top 69 feet, 3 inches. Transverse diameter 72 feet, 9 inches, covering an area equal to 1/15 of an acre.

JACOB KNOOP.

ON GRAFTING AND BUDDING ROSES.

BY DR. J. B VAN MONS, BELGIUM.*

FOR grafting the rose, scions are used of such a thickness that when they are fitted they may equal the stock in diameter; by making the slit short of the axis of the stock, the slenderest scion may be used. The scion is to be cut on both sides, so as to form an elongated wedge, and the back of the stock must be made to fit the graft on both sides; a ligature is afterwards applied, of fine bass, (matting,) made water proof by pressing it first through a solution of white soap, and next through one of alum. The ligature is finally covered with a coat of marly clay, mixed with old slaked lime, and moistened with white of egg, beat up with four or five parts of water. This material is applied with a hair pencil. The best stocks for this mode of grafting are the shoots of any kind of garden rose.

We employ, in Flanders, the same mode of grafting with the Dog Rose, only taking the precaution that the cleft be of sufficient depth to allow the out edge of the scion, which is immediately above its cut part, to rest firmly upon the wood of the stock. The ligature in this case is of bass; and we cover it with white mastic, made of Burgundy pitch, white wax, and boiled turpentine, with or without a little white size. Black mastic imbibes heat too much when exposed to the sun. The rose may be budded very well in the spring, if the buds are extracted with a small portion of wood adhering to them. For this purpose, scions are cut before winter and stuck into the ground, till the moment when in spring the bark of the stock will run. To prepare the bud, we make, firstly, a transverse cut into the wood a little below an eye, which incision is met by a longer cut downwards, commencing at a short distance above the eye, care being taken that a portion of wood is removed with the bark; this bud is inserted into the bark of the stock, which is cut like an inverted T, thus, ⊥; the horizontal edges of this cut in the stock and the bed, must be brought into the most perfect contact with each other, and there

* From Proceedings of London Hort. Society.

bound with water-proof bass, without, however, applying grafting clay. Eight days after the insertion of the bud, the stock is pruned down to the branch, which is immediately above the bud, on the opposite side; and this branch is stopped by being cut down to two or three eyes; all the side shoots are destroyed; and when the bud has pushed its fifth leaf, we compel it to branch by pinching its extremity; it will then flower in September of the same year.

You may also bud the rose in the spring, without waiting till the bark separates, by placing the bud, with some wood on it, in a niche made in the stock, similar to what would be formed by taking an eye for budding from it in the manner above described, and into which it is exactly fitted with a slight pressure. It is recommended to make the cut for the niche where there is already a bud upon the stock; when placed, the bud is then bound with bass, and covered with mastic.

For budding in June, I deprive the young shoots of the plants I desire to cultivate of their leaves; and fifteen days afterwards, the eyes or buds, at the axils of the leaves, are sufficiently swelled to allow of their being taken off and inserted as buds. The shoots from these buds often bear in the same year many flowers. In August and September, we insert our buds upon stocks that have not been pruned; they are placed on the old wood, not only because we bud low, but because this succeeds best. Whatever be the period at which budding is done, if the plant be well pruned on all its branches, the bud does not fail to push. The scion of a rose tree is seldom too dry to take, when the bud is inserted with a thin bit of wood behind its eye. I have thus budded successfully from scions that had remained in a drawer for ten days.

When cuttings for buds are to travel, I pack them in long grass, and surround them with straw, disposed longitudinally. We prefer to graft and bud our roses not more than six inches above ground, firstly, in order that the whole head of the bush may be exposed to the eye of the observer; and, secondly, because the union is more certain, and the plant keeps the earth about it moist by its own shadow. Besides, it often happens, in bending down the stem of high plants, to see their flowers, that their stem is injured and the buds displaced by the curiosity of persons desirous of minutely examining them. At the pruning season, the branches of the budded plants which are formed into a head, are annually cut back to nine inches in length; and we do the same thing with our roses which are not budded; we thus obtain a great deal of young wood, and a bushy plant, as well as a large number of flowers. The pruning is performed at the end of January; all the four-year-old wood is cut entirely back, and the plants themselves are taken up and replanted at the end of eight years.

Whenever we wish to make our roses flower in the autumn, we prune them back in the spring, as soon as we can discover their flower buds. In order to obtain stocks, we take from the woods and hedges suckers of the dog rose which is very abundant in Flanders, and which, like every other tree and shrub, increases itself spontaneously, has its roots bent like that of a layer. We select plants without lateral branches, and take them up before winter, to be planted in their places after winter; and we cut down the stem to a foot and a half in length.

JEAN BAPTISTE VAN MONS, M. D.

GOOSEBERRIES WITHOUT MILDEW.

BY DAVID MILLER, JR., CARLISLE, PA., AND J. M IVES, SALEM, MASS.

THE difficulty of growing the finest English varieties of the gooseberry, in all but the extreme northern part of the Union, is familiar to every gardener in the United States. Here and there, it is true, they succeed well; but for the most part, the *mildew* seizes upon the berries before they are half grown, and renders them worthless.

We have just received two communications, relating to this subject. The first is from a practical cultivator, Mr. MILLER, of Pennsylvania. His method, it will be seen, is an entirely novel one, and consists in grafting upon a sturdy native variety, much more easily propagated than the gooseberry from cuttings. If it proves equally successful in other parts of the country, it will be quite a boon to the cultivator of gooseberries. The following is his account:—

Carlisle, Pa., July 24, 1848.

Dear Sir—As there has been a great deal said with regard to mildew on the gooseberry, I have a brief suggestion to make on this subject.

There has been a large variety of gooseberry cultivated in this section, which was so attacked by the mildew that it was altogether abandoned, until it occurred to me to graft it on the Yellow Flowering or Missouri Currant, [*Ribes aureum.*] *Grafted on this stock it does well, even in unfavorable situations.* I have one stock worked in this way, which is about 8 feet high; and its numerous shoots are fairly bent down with the weight of its enormous crop of fruit.

Yours respectfully, DAVID MILLER.

The second communication is from J. M. IVES, Esq., of Salem, Mass. Accompanying it was a small box of *Houghton's Seedling Gooseberry*, a variety which Mr. IVES has cultivated for some years, and which he commends highly as being wonderfully prolific, of good quality, and entirely free from mildew in every soil.

This variety, we learn, was raised from seed by Mr. ABEL HOUGHTON, of Marlborough, Mass. Mr. IVES suggests that it was raised from the *native* species of the gooseberry found in our woods; and of this, after examining the fruit and leaves, we have not the slightest doubt. We are, indeed, exceedingly glad to find that our indigenous gooseberry so easily improves by reproduction and cultivation, and can scarcely doubt that the seeds of the present variety, if planted, would soon give new varieties nearly or quite equal to the *Lancashire* berries, and also, (which is the great gain,) with a constitutional habit adapted to our climate, and therefore not liable to mildew. We extract from Mr. IVE's letter as follows:

"This is certainly one of the most valuable gooseberries. It is entirely free from blight; the plants are very hardy, and bear great crops of fruit. It has never as yet blighted in our locality, is exceedingly luxuriant in growth, with long pendant shoots, similar in habit to the 'Crown Bob.' You will see by the foliage that it is a native seedling, as I suspected; and from an examination of the flowers last spring, I found them to resemble the wild gooseberry in the calyx, etc. Yours truly,

"*Salem, Aug.* 1, 1848. J. M. IVES."

The fruit is very thickly set upon the

branches, small, oval, and smooth. The skin is thin, glossy, colour pale, or dull reddish brown, marked with faint greenish lines. Flesh tender, juicy, and of a sweet and pleasant flavor. The fruit ripens at the close of July. Though not a high flavored gooseberry, as compared with the best European varieties, yet the great crop which it uniformly bears, and the ease with which it is grown, will no doubt bring it into general cultivation, both as a market fruit and for home consumption.

We borrow a cut from the *Boston Cultivator*, (which journal rates it highly,) which gives an accurate representation of this variety.

Fig. 19.—*Houghton's Gooseberry.*

FIELD CULTURE OF THE RED ANTWERP RASPBERRY.

BY S. A BARRETT, MILTON, N. Y.

THE *true* Red Antwerp Raspberry is, perhaps, the most profitable of all fruit to cultivate for market. A plantation of three-fourths of an acre, belonging to Mr. Nathaniel Hallock, of Milton, Ulster county, N. Y., has, the past season, produced *thirty-three hundred baskets*, which he sold in the New-York market at an average price of ten* cents the basket. Here are $330, *gathered in one month*, from three-fourths of an acre of land! and at a comparatively trifling outlay of labor and money.

The plants have been set one, two, and three years; so that they had not *all* attained a full bearing age. Indeed, not more than one-half of them had; as the third season from the planting is the *first* of *full bearing*.

A greater sum of money than the above named may have been gathered, in a single season, from the same quantity of land; but when the small amount of labor which

* Higher prices were obtained by others, in the same market. One gentleman received a shilling a basket for the season, and the purchaser paid the freight.

produced it, is considered, the yield is truly enormous.

It were superfluous to tell the readers of the "Horticulturist," *how* a crop of the Antwerp is produced; but it may not be superfluous to tell them that a strong, deep loam, with but little sand, is the *only* soil from which they may expect a full crop, *every season.* A slate soil, a *gravelly* loam, or a stiff, cold clay, cannot be *relied upon* for this fruit.

Mr. PARSONS, of Flushing, Long Island, somewhere says (I quote from memory, and it may be incorrectly,) that the Antwerp has been in cultivation in this country about 30 years; yet the markets have never been sufficiently supplied with it. And he might add, that not one-tenth of the denizens of our large cities, who are abundantly able and willing to supply their tables with luxuries, have ever so much as *seen* a specimen of that delicious fruit—the large Red Antwerp Raspberry. S. A. BARRETT.

Milton, August 14th, 1848.

TO PREVENT THE "ROT" IN GRAPES.

BY A JERSEYMAN.

DEAR SIR—You will probably call to mind a conversation between us when I was at Newburgh in 1846. I laid before you an account of the disease which had then made its appearance in our native grapes, —the Isabella and Catawba. It commences about the first of July, in the form of a dark spot upon a few berries. These afterwards become entirely spoiled by the disease; and this rot spreads from berry to berry till a large part of the bunch, or, in many cases, whole bunches are entirely spoiled by it. Wet seasons, unsuitable soil, and various other causes have been assigned for it; but as yet, to my mind, no satisfactory explanation has been given.

You advised me, at that time, to apply sulphur and lime in the form of gypsum, or common ground plaster of paris; and you also advised me to use the leaves and prunings of the vines for manure.

This is the second season of my trying your advice; and as I received it with the promise of making known the results, I accordingly send you a brief statement, which I think proves that the advice was good.

I have about twenty vines of the Isabella and Catawba grape, in a full bearing state, trained on upright trellises. In the month of June, (latter part,) 1846, at the time I made the summer pruning of the vines,—cutting off the side shoots two joints above the fruit,—I opened shallow trenches, say four or five inches deep, at the roots of the vines to be pruned. As fast as the pruning was finished, the leaves and young stems cut off were laid in these trenches, *sprinkled with sufficient gypsum or plaster to whiten the foliage,* (from a pint to a quart per plant,) and the whole trodden down and buried in the trench.

As soon as the leaves fell in the autumn I repeated the process,—raking up the leaves and burying them around the roots of the vines, after dusting them over with plaster as before.

In June, 1848, the present season, I repeated the same operation at the summer pruning.

Now the result is as follows:

Although the season is remarkable for the prevalence of the rot, not a berry on any of these *six vines*, so treated, is affected; the crop being, on the contrary, very good,—the fruit large, and increasing in size. The vines, too, are remarkably healthy and vigorous.

On the other hand, the remaining vines, fourteen in number, are every one affected by the rot—some of them very badly; and even on those least affected, 10 per cent. of the berries are destroyed by this disease.

I cannot, therefore, escape the conviction that the treatment you proposed has so far been effectual in preventing this disease.

I ought to add that the vines of my neighbors generally are much affected by the rot this season, and that I have seen no Isabellas or Catawbas this season that surpass in appearance those on the six vines alluded to you.

This "rot" is a disease that has only appeared within five years in this part of the country. At the south, I am told, it has always existed. On the Ohio, as I gather from Mr. LONGWORTH's remarks, in your journal, it is quite troublesome in the vineyards; and it appears to be on the increase through the country generally. A remedy for this disease must be considered a public benefit, and I therefore send you the above remarks for publication, if you deem them worthy. Your friend, A JERSEYMAN.

August, 1848.

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REMARKS.—We thank "A Jerseyman" for his account of the apparently quite successful experiment. Our advice was based on two considerations; in the first place, we supposed that the rot might be owing to the want of some inorganic substance in the soil, necessary for the perfect maturation of the grape; and secondly, perhaps, to the use of crude animal manures. As *sulphur* and *lime* are large constituents of those volcanic soils abroad, where the grape thrives best, we recommended the use of a common substance — gypsum — likely to supply them; and as the foliage and shoots of the vine are well known to afford the most perfect food for the growth of that plant, we recommended the use of the prunings and fallen leaves, buried in the soil, for manure.

It is worth while now to repeat the experiment on a larger scale, in vineyard culture, and we accordingly recommend it again to the vine-dressers on the Ohio, with a similar request for a statement, when they are ready to "report progress." ED.

DESCRIPTION OF THE POLMAISE MODE OF HEATING GREEN-HOUSES.

A GREAT deal of interest has been awakened in England, for two or three years past, in a new mode of heating hot-houses, green-houses, pits, &c., called the *Polmaise method*. It takes its name from Polmaise, in Stirlingshire, the place where it originated. The first account of this mode was published by Mr. MURRAY, of Polmaise, in 1844; but to Mr. MEEK, of Holmsdale House, Nutfield, belongs, perhaps, the merit of improving the apparatus, and fully proving its merits to the horticultural world.

The great superiority of Polmaise heating, over the old modes by brick flues, and hot water pipes, are the following:—

An equal and uniform temperature in all parts of the house; a constant circulation being maintained of heated air towards the coldest part of the house, and cold air to the warmest part.

Improved health of the plants, caused by the fresh warm air (rendered moist by passing over a small tank or pan,) *circulating* freely in all parts of the house.

A much smaller consumption of fuel to produce a given temperature than in any other mode of heating.

Economy in construction; the cost being not more than a third that of hot water pipes, and somewhat less than that of flues.

This method of heating has now been practiced for three years in various parts of Great Britain; and though, like all innovations, it has met with opponents among those whose interests or prejudices bias them in favor of the old modes, it appears now to be pretty generally conceded that "Polmaise," as it is familiarly called, is a great step in advance of the previous modes of heating horticultural buildings.

Several of our correspondents, anxious to make a trial of it in this country, have solicited from us details of its construction and operation. We therefore endeavor to place the matter as clearly and concisely as possible before them.

The principle of the Polmaise method is one long well known in science, viz., that cold air descends, and hot air ascends; and that a vacuum being caused by abstracting a portion of the air from one part of a room, it will be directly filled by a corresponding quantity of air that will flow in to supply its place from another part of the room.

In a hot-house, heated in the ordinary manner, by flues or hot water pipes, running round at the level of the floor, the warmest part of the house is at the apex of the roof, and the coldest part at the floor; because the heated air rises, and the cold air settles at the bottom, and there is little or no circulation. From this want of circulation, there is also an accumulation of heat about that part of the house nearest the boiler or furnace; and, in very severe weather, the plants there are liable to be injured by heat, while those in the opposite end are with difficulty kept from the ill effects of cold. A considerable part of the heat produced by the furnace or boiler is also lost in the mass of materials that surrounds it.

In a hot-house or green-house, heated by Polmaise, the constant motion of the air from the furnace towards the coldest end of the house, and from the latter back again to the furnace, distributes the heat uniformly throughout the whole of its area. While, as we shall see, by small openings provided in the wall near the level of the floor, fresh air is admitted, passes at once into the cold air drain, over the furnace and into the house,—thus providing a complete system of ventilation, without any of the injurious effects of cold drafts through open doors or windows in the common mode.

To illustrate our meaning, we submit the two following cuts, showing the section and ground-plan of an ordinary lean-to green-house, heated by Polmaise. In Fig. 20, A is the green-house, B the back shed,—the latter containing the sunk area or stoke-hole; C, for feeding the furnace; *d*, is the level of the floor.

In this section, 1 is the furnace, with an air chamber, 2, all round it; 3 is the cold air drain; 4 the register, or opening in the hot-air chamber, through which the heated air passes into the *house*.

In Fig. 21, 2 is the furnace and hot-air chamber with its opening, 4, for the exit of the hot air; 3 the cold-air drain. This

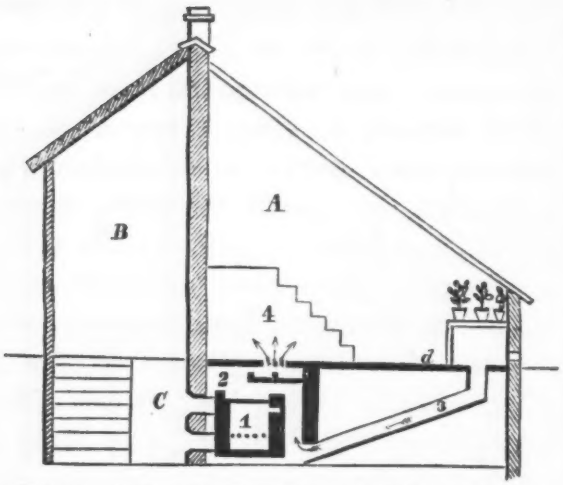


Fig. 20.—*Section of a Green-House, heated by Polmaise.*

drain is laid under the walk,—the top being covered with flag stones, tiles or plank, as may be most convenient. At the extreme ends of this drain (the coldest parts of the house,) is an opening or openings, 5,

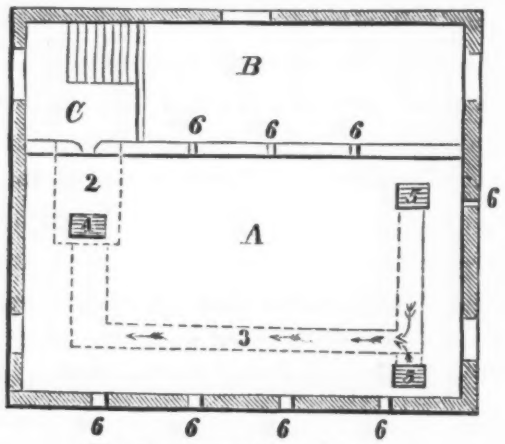


Fig. 21.—*Ground plan of the same.*

5, formed at the level of the floor. There should always be a *descent* in this cold-air drain, from the mouth (5) to the other end where it enters the air-chamber, in order to facilitate the circulation of the air.

It is easy to see, that when a fire is lighted in the furnace, the air in the chamber (2) will become heated, and will immediately rise through the opening (4) into the body of the house. To supply the place of this air, that thus passes out, the cold air in the drain (3) will immediately flow into the hot-air chamber, rise over the furnace and become heated, and also pass into the house. This cold-air drain being emptied, the cold air at the other extremity of the house will rush into the mouth of the drain (5,) and move on likewise towards the hot-air chamber. The subtraction of cold air at that end of the house most remote from the furnace, causes a movement there, and to supply its place the heated air—pouring in from the hot-air chamber—flows in a continuous stream towards that part of the house (5) where the mouth or mouths of the cold-air drain lie. This circulation of the cold air towards the warmest part of the house, (through the drain,) and the warm air towards the coldest part of the house, (through the atmosphere of the house itself,) once commenced, continues as long as the fire is kept up. The increased health of the plants, caused by this genial breeze, can scarcely be a matter of dispute; and the advocates of Polmaise in England insist most strongly on its great advantages in this respect. By keeping the shallow iron tank, which is placed just below the opening of the air chamber (4,) filled with water, this hot-air stream may be made more or less damp at pleasure. The advantage of the small ventilators (6)—apertures in the wall three or four inches square, just above the floor—will, we think, be found much greater in this climate than in England. These openings must be furnished with small sliding doors or lids; and by means of these, an abundance of fresh air can be introduced into the house without the least danger to the plants themselves,—a point always difficult, with us, when the exterior temperature is near zero of Fahrenheit. In extremely cold weather, the ventilators in the back wall (opening into the back shed, B,) may be used.

The furnace is intended for coal, and

our anthracite will be found to afford an excellent steady fire, easily ma..aged. It should be built with precision, and in a workmanlike manner, to insure against the escape of gases into the air chamber, and thence into the house. Though in the plans we have presented, the furnace is placed under the floor of the green-house, (the mode securing the greatest economy of heat,) it is quite as frequently placed wholly in the back shed, with an opening in the back wall of the green-house for the emission of the heated air.*

We conclude this article with two working plans of the furnace, showing its construction for a hot-house of moderate size, with the measurements given in feet and inches. Following this, any skilful mechanic may erect a Polmaise furnace without further directions. It is Mr. MEEK's latest plan; and we copy it, with LINDLEY's remarks, from the Gardeners' Chronicle.

We are much indebted to Mr. Meek for the following plan and description of his Polmaise apparatus, with the latest improvements. The plan is now given of such a size, and in such detail, that any village brick-layer may construct it without difficulty or uncertainty. The iron work he can procure of his ironmonger. We strongly advise the public not to attempt to improve upon this, which is the result of careful experiment and long experience; but to attend to every part of it with the most scrupulous exactness. The multitude of houses, and other buildings, now successfully heated upon this plan, and the beautiful condition of the plants in them, have finally disposed of the objections made first to the principle, then to the action, and lastly to the safety of Polmaise.

Explanation of Wood-cuts.

A. Four 4½ inch brick piers on which the stone slab B B is supported, 9 inches from the floor of the hot chamber.

B B. York flagstone, 3 inches thick, 3 feet square, on which the stove is built.

C C. Ash-pit, 9 inches deep; the stone forms its floor; under this the chief portion of the cold air passes on its way up the sides of the stove, and by this means much heat usually lost in the ash-pit is economised.

D D. Ash-pit and furnace door (cast iron,) ¼ or ⅜ inch thick; they are 11 inches long, 6 deep, and 9 wide, like boxes without bottoms laid on their sides; they have a flange 2 inches deep all round their edge at bottom, which fits into the centre joint of brick work of the stove; thus any exhalation of gas, when fuel is supplied, is prevented escaping into the chamber; these doors extend 4½ inches into brick work of stove, 2 inches across the area between wall of stove and that of stoke-hole, and 4½ inches into wall of stoke-hole=11 inches. Thus these two walls are separated, a draft of air constantly flowing up between them; if the furnace door is thought too shallow it can be made 8 inches deep instead of 6.

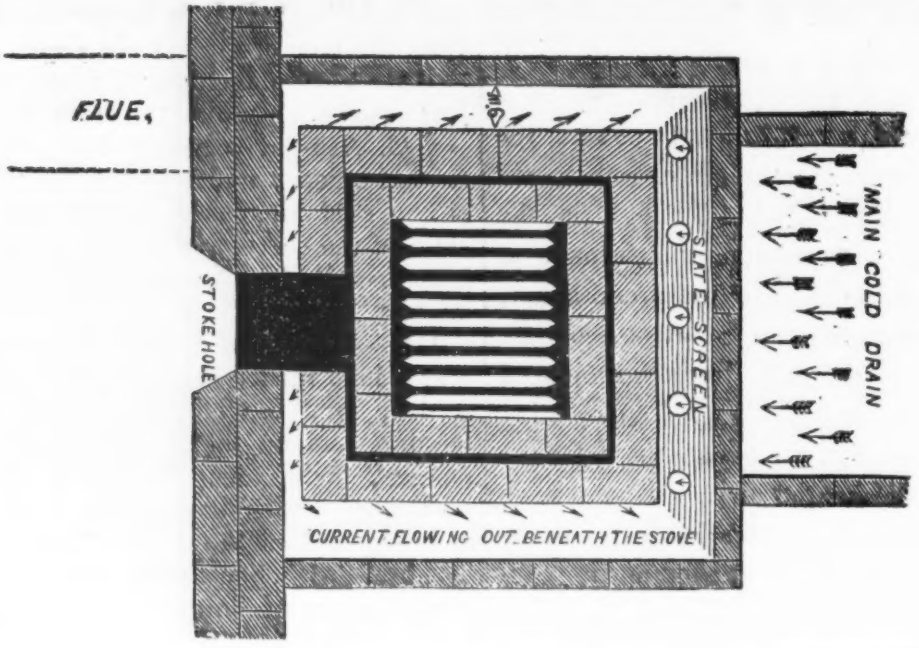
E E. Furnace. 1 foot 9 inches deep, 1 foot 6 inches wide; stove built of Newcastle fire brick, set in fire clay. The brick work must be carefully done, every course puddled in with fire clay, and the joints of brick work properly broken; the outside parged with best hair mortar and cow-dung.

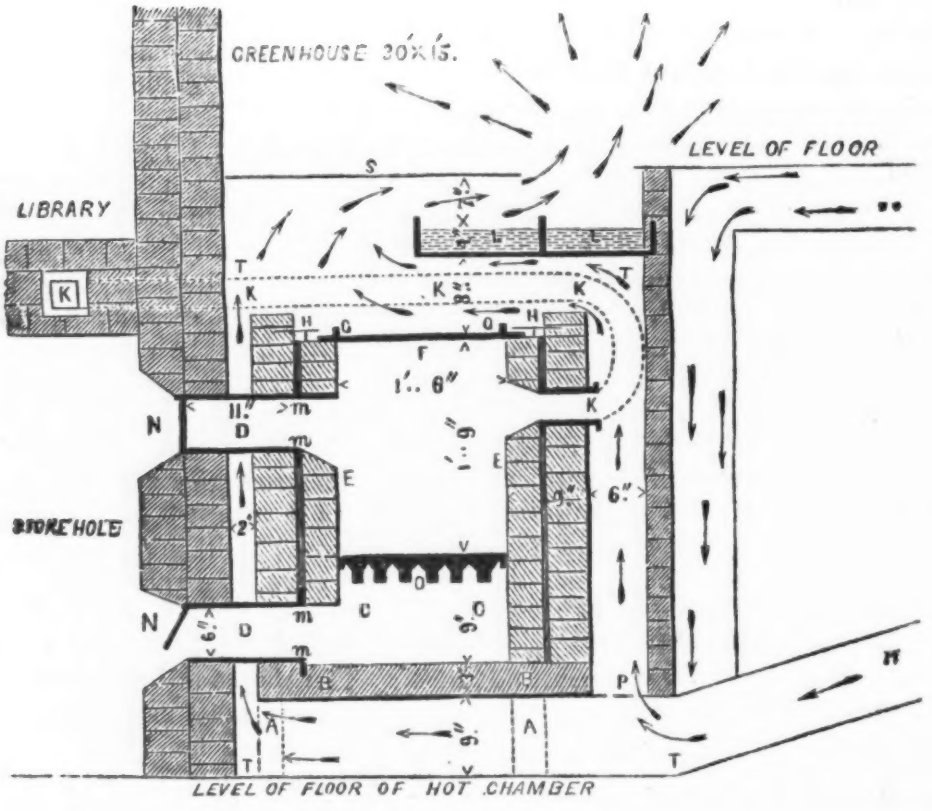
F. Cast iron plate, 1 inch thick, 2 feet square, *should be cast six months before using*. It forms the top of furnace. Its size allows it to rest 3 inches on the brick work of stove; on its upper surface, 2 inches from the edge, is a rim or rib, either cast on the plate or formed of ½ inch cubic bar iron, slightly fixed by screws to the plate itself. The course of brick work on which the plate rests must be worked very true, to give the plate a level bed.

G. The cast or wrought iron rim, the use of which will be presently described.

H. Four thin pieces plate iron, ⅛ inch thick, about 6 inches wide, to be used thus: After the plate is laid on, the outer course of brick work of stove must be brought up level to it exactly, either by tile or other

* A *brick* furnace is no doubt the best, as retaining the heat longer, and as being more uniform in its temperature; and that described in the following page is a very complete one. There is an air-tight stove, for *anthracite coal*, which has recently come into use in New-York, which gives a very mild and steady heat with a small consumption of fuel, and which, we think, might also be used for Polmaise heating.





* * The cold-air main drain would have acted equally well, perhaps better, if constructed on this plan, keeping it horizontal, or only slightly inclined, with a sudden downward shaft to the floor of Hot Chamber. This would save much excavation.

†† Portion of cold-air main drain, having an opening 3 feet wide and 1 foot broad, at the farther end of Green-house inside; this opening is below a flat stage for flowers. The drain is 3 feet wide, 1 deep, formed at the sides of brick on edge, covered over with any rough paving tiles, slates, or flagging.

means, and the tile or split brick must not touch the edge of the plate, but ½ an inch space is to be left between the edge of the plate and the edge of the tile. The four pieces of plate iron are then to be laid upon the tile round the stove, and a course of brick work upon these again, to keep them steady; and they are to be so placed that they project over the four edges of the plate till within ½ an inch of the rib of iron; they will thus cover over an ½ inch clear space all round the edge of the plate (marked I;) into this the plate can freely expand, while upon these thin pieces of iron, between the top brick and the rib on the plate, fine sand is laid, the position of which can never be deranged by the expansion of the plate, as is the case if the sand were laid in the space I; while, if the plate is cast with a rim falling into a groove of sand, the sand prevents its expansion, and it either cracks or arches, and in time is lifted out of the groove, the sand getting underneath it.

I. The ½ inch space above explained.

K. The flue, formed of cast iron (hot water) pipe, a socket, an elbow and straight piece rammed together with iron filings and sal ammoniac; this conducts the smoke into the old flue in stoke-hole, pipe 4 inch bore; it is swept out by a flexible brush at the soot door, R, and being swept by the blast it forms a considerable addition to the heating power; the socket fixes into the brick of stove exactly like the door, having a piece of plate iron screwed on to its inner rim like the doors, and for the same purpose.

L. Cast iron water tank with division, one or both sides being kept full, according as much or little atmospheric moisture is required; the purposes to which the house is devoted must regulate the size of this; if for a moist stove temperature it cannot be well too large, if for green-house, 2 feet by 3 feet will be ample with division; the bottom of the tank also forces the air over the plate before allowing it to escape.

M. Flange on doors, already explained.

N. The flap of door which hangs on a pivot, lifting on or off; the ash-pit door is represented with flap open, the opening is enlarged or decreased as much or little air is required for draft to the fire.

O. Fire bars 3 inches thick, forming a square of 18 inches; care must be taken that these do not bind in the brick work of the stove; they should have half an inch play allowed.

P. Is a screen of slate with some holes in it (as shown in ground plan) for the purpose of forcing the greater part of the cold air to pass under the stove and up the three other sides, instead of allowing it at once to pass up the sides nearest to it, while the apertures allow a portion to pass up.

R. Soot door in flue. It would be well to have a damper just beyond this.

S. A screen for the purpose of forcing the hot air over the tank before it discharges itself into the house, and also to prevent the intense radiation of the stove.

T. The hot-air chamber, 5 feet 2 inches deep, 4 feet wide, (inside measure;) the walls are formed of brick on edge. If the ground is loose this should be 4½ inch brick work; excavate sufficient to allow 2 or 3 inches of saw dust to be thrown down behind the wall of the chamber.

Remarks.

It is not necessary that the entire apparatus be thus sunk below the level of the green-house, although it is desirable to give the cold air drain as much fall as the nature of the ground will allow—it is quite immaterial what position the cold air drain or the stove occupy; they may each be placed where most convenient. The circulation of air caused by the apparatus of which this is a description is very great, so much so, that when the entire house is closed, the internal motion may be fairly described as a breeze; while the economy with regard to fuel will be found extremely great; the positive consumption will be best stated in the coming winter. The stove is 9-inch work; any person at all fearful of gaseous leakage may at once render this impracticable by using 14-inch work with a layer of sand even half an inch thick between the 9 and outer 4½; or this provision may be made for safety-sake on the side where the cast iron flue leaves the furnace; such a stove would form an immense accession of heat, though the temperature would be long rising.

ON VITALITY AND LONGEVITY IN FRUIT TREES.

BY PROFESSOR TURNER, ILLINOIS COLLEGE.

MR. DOWNING—DEAR SIR—In my communication of April last, I did not intend to pledge myself for the next number, though I did intend to have written before this time.

I was doubtful, until I saw the article in print, whether you would think proper to publish it. At that time, which was about the middle of April, I had just received about 150 seedling pear trees from Iowa, 200 miles north of this, which I had procured for the purpose of prosecuting my experiments in my fruit yard.

The buds had all burst before they came to hand; they were about five years old, and seven feet high. According to my principles, I carefully reset them, and they ought all to have lived, notwithstanding their unfavorable condition; but, to my utter surprise, most of them, in the course of two or three weeks, shed off all their living buds and leaves, and apparently died. This was the first fact that I had seen, which I could not reconcile to my theory. I knew not how to dispose of it to my own satisfaction, and forbore to write you until I could. However, in a few weeks they all revived, and have now started finely into their August growth. This, on the other hand, greatly confirms me in my previous opinions; for not one tree in ten, which had no seedling root, would, under like circumstances, have recovered. Their temporary failure was owing to obvious causes.

After they had revived, another most interesting fact occurred, the results of which I have waited to see. One afternoon in May I grafted about fifty Beurre Diel pear scions into the roots of small thorns one year old, beneath the ground. Some scions from the same bunch had been grafted before, and were growing vigorously in the same row; and the tree from which they were taken in winter was standing near by in perfect health. The day after the grafts were inserted became suddenly excessively hot,—thermometer standing at above 90 degrees.

The scions generally stood covered in the earth except one bud and about two inches of the top. Now mark the result: The third day, to my utter surprise, I found every scion, which stood fairly exposed to the sun at three o'clock the day before, with a ring of the bark, about one-quarter of an inch wide, *entirely blackened and killed;* extending sometimes half round, and sometimes entirely round the scion near the ground, at that point where the reflected and direct rays of the sun struck the scion in the same place. About half the whole number grafted were in this condition; while all those which were at that hour accidentally shaded by a clod of earth, or a dissevered branch, or twig, or by the adjacent trees, were every one unharmed, and are still growing finely. As to the sunstruck scions, those that stood leaning from the sun, and were blackened all round, all turned black to the top and died immediately; while those which were, from their position or other cause, so far protected as to be injured only partly round the scion, lingered along and exhibited all the symptoms of ordinary blight until they died. Not one that was blackened that fatal day has survived, and not one not blackened that day, has died. Here is, it strikes me,

rather a peculiar case of "frozen (?) sap-blight," is it not?

A third fact, which I mention merely as a fact, though I am not aware that it has any connexion with the main subject of my paper: Some of my pear trees are now bearing fruit, and are ten or twelve years old. I noticed in May that the leaves began to assume a peculiar appearance, which has continued to this present time. It is a disease which to appearance, so far as the leaf is concerned, bears a striking resemblance to tubercular consumption in the lung of the human subject. At first, small spots, all over the central portions of the leaf, appear, a little paler green than the healthy parts; these spots next assume a yellowish cast, and rise into an apparent tubercle or wart on both sides of the leaf, thickening, and extending, and ulcerating, and running together, until at last whole patches of the middle or extremities of the leaf turn black, and fall out dead as though seared with a hot iron. In other words, they seem to ulcerate and slough off, while still the tree, in other respects, continued to grow and look healthy.

I find this disease on other trees in this vicinity. I can hardly think it the effect of either insects or heat. What is it? I cannot tell. Such extensive injury to the respiratory organs must impair the real, if not the apparent health of the tree.

But I will, for the present, leave these facts, and proceed to apply the principles of vitality and longevity, laid down in the April number, to some of the diseases in trees in the west. If the principles there defended are correct, we should of course naturally suppose that the greater the part of a grafted tree which came from the seed, all other things being equal, the greater the vitality and longevity of the tree. Hence, the best of all ways of grafting would be to let the seed expand its vitality for some eight or ten years, and then graft, or bud the scions into the outer twigs and branches of the grown tree. But as this would be laborious and expensive, and as the cutting off of large branches would mutilate the tree so as to endanger a local disease, we must find some practical medium. But I believe it will be found that the entire trunk and root of the tree, at least, should in all cases be made from the seed, and not from the scion; and if more of it, still so much the better.

The next best mode would be to put a scion into an entire seedling root; the next best, into a part of a young seedling root; and the worst mode of all, would be to graft from the sprouts or roots dug up around an old tree; for aside from the want of vital force, such trees are very liable to be affected with latent chronic diseases, analogous to consumption and scrofula in the human system, which, in fact, causes them to throw out these sprouts so bountifully from the root. That all such trees are worthless here, in the west, has already become notorious. Most of the sprouts upon which our pears in this vicinity were grafted, were taken from an old barren pear tree in Alton, and the scions put in the root below ground; and I do not know of one in the county, so made, that has lived fifteen years. But so far as I can learn, this process of mutilation has been going on all over the United States with the cherry and the pear for several generations of scions, without any attempt to refresh them in new seedling stocks, except where emigrants have gone to new settlements and carried pear seeds with them, and thus of necessity recruited a worn out scion with the vital force of a fresh seedling.

In this state of things, can it be wonderful that our most delicate varieties of cher-

ries and pears have become short lived, and excessively prone to disease.

It is now but a few years since this same process of mutilation was commenced with the apple. Who ever heard of sun-blight and premature death in the apple, so long as the old modes of grafting into good seedling roots were practiced? But it is already almost as common in these parts in the apple as in the pear; and whole orchards, made from sprouts and pieces of roots by this absurd mode of grafting, have been swept off by premature disease and death, while seedling trees of the same age, and even trees grafted in the top, continue to thrive and grow vigorously.

It is said by nurserymen that trees thus made from pieces of root grow more clean, and straight, and free from spurs and sprouts. True—most true; and that alone is enough to condemn them; for the eye of the practiced physiologist sees in the tall, straight, luxuriant, branchless, thornless shoot, so made, the same marked indications of premature decay and death that the physician sees in the tall, slim fair favored, smooth skinned, scrofulous boy, or in the pale faced, girded and corsetted maiden. It may be beautiful; but it is the wrong sort of beauty for this rough, dying world. At all events, our most intelligent nurserymen are becoming fully awake to the fact that trees so made, on this rich soil, whether apple or pear, will not live out half their days; and our farmers will learn it to their sorrow within twenty years, though many of them have found it out already. Now I suppose this process of deterioration does and will increase from one generation of trees to another; and if the same practice is continued as long with our apples as it has been with our cherries and pears, they will become equally precarious and tender.

I advert to this, however, as only the predisposing and constitutional cause of the disease in the apple, and especially in the pear and cherry, and not as the immediate or proximate cause. Just as tight lacing and hard drinking are great predisposing causes of many diseases in the human frame, which would, perhaps, after all, never be developed, unless developed by some proximate cause in climate or diet.

The proximate cause alone, without the predisposing, may, and doubtless does, in both cases, often produce the disease. But it is only when both are united that its ravages become general and frightful.

Another predisposing cause is absurd modes of pruning, even in the nursery, and ever after. A tree is naturally a tree; it is not a shoot or sprout, a mere riding switch or walking cane. Each branch above has its own root below; and whenever a branch is cut, the corresponding root is proportionally paralized, enfeebled or killed. Besides, nature no more designed the trunk of a tree to be exposed to the hot sun than she did the body of a man; and she everywhere guards this important point just in proportion to the real danger. Hence, trees that will form trunks sixty feet long in the shade, will not make them ten feet long in the sun. Hence, too, all our forest trees, whose branches are quite high up in New-England, and still higher in Nova Scotia, around the burning prairies of Illinois throw their branches quite down to the ground, so as to screen themselves entirely from the hot sun. I verily believe many of our fruit cultivators in the west would kill all the forest trees in the state, if they were sent out with the pruning knife and handsaw to cultivate(?) them. For there are few trees of any sort in the state that can endure the scorching rays of our hot August suns, thrown directly at full length upon

their naked trunks. This marked tendency in all our forest trees to screen their trunks, every passing traveller observes. So the young pear or apple tries to screen its trunk, or to prepare to, even in the nursery; but the jack-knife of the nurseryman will not let it. It however makes out to hide behind its fellows; and, as slaves in the hold of a prison-ship keep each other warm, so they continue to keep each other tolerably cool, until six feet high and half an inch through, they are consigned to the orchard as branchless as they are worthless. But now comes the tug of war; the hot sun scalds, and the poor tree tries to throw out a protecting branch or shoot—now on this side and now on that; but no, that inexorable jack-knife allows no such liberties. Beside, the farmer's grandson may want to plough there sometime, and the limb would be in the way; and so, off it goes. So, for for the next five years, the ill-fated tree stands and scalds in the sun, and whips in the wind, with a trunk or rather a stem about the size of a man's finger, and six or seven feet long, and with a head in size and shape much resembling that of Ichabod Crane, of Sleepy Hollow notoriety. But no sooner has this poor head contrived to afford, after all, a tolerable protection to the imploring trunk below, than it finds the fated hand-saw of the cultivator whisking about its ears, till at last, despairing both of shade and of peace in this world, it gives up the ghost and dies; and who blames it? Surely no feeling man can. Every cultivator in the west must have noticed the extreme effort of all trees, and especially of the pear tree, to conform to the general law of our climate, and the habit of all our forest trees, by attempting to throw out side shoots year after year, until the bark becomes so indurated that it is impossible; and then it betakes itself to the last resort of throwing a crop up around from the root. Now, my dear friend, this is an intimation to you, that the pear tree does not intend to become a fishing pole, nor a mere ornamental shade tree; but it intends to bear you some good pears one of these days, and would do so if you would let it alone; it also intimates, in the most modest and respectful manner, that under a hot summer sun its poor body wants some clothing as well as yours.

The necessary effects of this sort of mutilation upon the vital power and longevity of a tree are at some points apparent. In the first place, it is a constant interference with the natural and healthful functions both of the top and of the root; filling the top and trunk with cavities, and patches of dead and putrescent wood externally and internally, and the root with paralized and dead or dying roots and rootlets,—all inviting and hastening every natural tendency toward disease,—probably increasing from generation to generation. What constitutional effect it would have if all the fingers and toes should be cut off from a community of human beings through several generations, and the sprouts trimmed if they attempted to grow again, we cannot say. But we can hardly think it would not in the end enfeeble the natural constitution of the whole race, and at last introduce new and unaccountable organic or constitutional diseases. And is there not a strong probability that cultivated trees have been constitutionally, as well as individually, injured and enfeebled by a similar process? The philosophic world have paid little attention to the laws and conditions of health in trees, compared with that bestowed upon animals, and of course but little is as yet certainly known. It has generally been taken for granted, that because a tree could not be killed as easily

as a man by external mutilations, that therefore it could scarcely be killed or injured at all. But recent observations tend wholly in one single direction; that is, towards establishing a close and hitherto unsuspected analogy between the functions and powers of life, both in the animal and the vegetable world; and sound philosophy should lead us to suspect, rather than otherwise, that such analogies actually exist in multitudes of cases where they have not as yet been demonstrated.

Another effect of pruning the trunks of trees severely, results from disturbing the natural relations of the ascending and descending sap. The ascending sap goes up in the wood; the descending returns by the bark. It is near enough the truth for illustration, to say that the capacity of ascent is most nearly proportioned to the solid contents, while the capacity of descent is nearer to the superficial contents of the trunk or branch in all young trees. Hence, the capacity of ascent increases as the square of the surface, or near that ratio, while the capacity of descent increases only as the surface. Hence, where trunks are exposed to the sun, or where plenty of light and air is found for the leaf, nature commences her work of dividing the trunk into branches near the ground, so as to increase the surfaces for the return sap, while the interior contents are proportionally diminished through which the current rises; and the richer the soil the greater the necessity of this increase of surface for the return sap; and hence the constant effort, in such soils, in trees to throw out branches from the trunk near the ground when young; and if prevented, around the trunk from the root when old. Some years since, I took a pear tree from a nursery six years old; its trunk was already trimmed up five feet. I attempted to make it grow in the form the nurseryman had given it, by cutting off all the sprouts which continually were shooting out from the sides of the artificial trunk. The tree refused to grow vigorously upward under the best care, and finally gave evident symptoms of paralysis in the top, by the stunted, short, knotty shoots it would make there every year, while still it would throw out the most vigorous sort of shoots from the side of the trunk. I suspected the cause, and allowed the shoots on the trunk to grow on it, and on all my other trees which were inclining to the same condition. In less than two years, they covered their entire trunks with limbs quite to the ground, and then started into a vigorous growth throughout the whole top, which they have continued to this time, and are now loaded with fruit. Now mark; the nurseryman, from whom I bought these trees, set out a large number in his own orchard the same spring, and continued his practice of trimming the bodies until the year of the pear-blight, (in 1844, I think,) when every one of his trees were killed to the ground, while not one of mine was injured, except a single tree on one side, which had for some reason refused to throw out its side limbs. The same season destroyed more than nine-tenths of all the pruned pear trees in the county, while my own yard, and one other in which no pruning had been allowed, were the only ones, so far as I know, which escaped.

At the time I began to allow the branches to grow on the above named tree, the trunk, just below the upper branches, measured nine inches round; all the branches together, just above, measured seventeen inches round. Hence, the surface for the return sap was, at the crotch of the tree, five feet from the ground, suddenly contracted in something near the ratio of seventeen to nine, while the passage of the as-

cending current could not have been contracted more than in the ratio of four to three; and, considering the diminution of the heart wood, probably was not at that point contracted at all. The necessary mechanical result is plain. The tree in a rich soil poured a full current of sap into the top and leaf, while every year its relative return surface was continually diminishing, and all the return sap which at the time of measurement flowed over seventeen inches of surface was, at the crotch of the tree, suddenly compressed into a surface of nine inches in circumference; and through this compressed surface it was compelled to run full five feet in the hot sun, before reaching the root, without being refreshed by the new and fresh sap from a single side shoot. Of course, all the vessels in the bark of the trunk were filled constantly with the necessary pressure from above, with more sap than they could safely return to the root or deposit on the trunk, and were attempting to relieve themselves by throwing out side shoots. This not being allowed, they were gorged more and more as the leaf and top increased, until either organic ruptures—as in the case of the cherry tree—or the chemical action of the hot sun upon the gorged and impeded sap—as in the case of the pear—completed the catastrophe of obvious disease or death. I have just now measured the pear tree alluded to above, and find, since it has had its own way, that the relations of the superficies at the crotch, which is now lower down, have changed from the ratio of seventeen to nine to the present ratio of twelve to eighteen,—showing that the increase between the times of admeasurement to have been three inches on the stem to one inch on the branches above. The trunk of the tree is also now entirely screened from the hot sun by the side branches it has thrown out; and the sap in the stem is frequently refreshed by the return sap from these side branches. There is no appearance of paralysis in the growth of the top, nor of gorged sap in the stem, fermenting in the hot sun, and spreading signs of disease on its outer bark, or diffusing them throughout the whole trunk and top of the tree. In a word, the tree has returned, or is at least fast returning, to a vigorous, natural, and therefore healthful condition. But after all, as it was originally made from a vicious grafted sprout, instead of a healthy seedling root, it will probably, in spite of all other cure, die prematurely. Had I time to write, or could I suppose that you have room to publish details of this sort, I could give them to any extent.

In this country, the blotch on the large limbs and trunk of the pear and apple tree, in what is called the blight, is always on the western side, generally southwest, or facing the sun at the hour of extreme heat. And wherever I have found it on the northwest side, it has always been *near the ground;* and, on further and closer inspection, I have found in such cases that the grain of the tree, wound—as it is called—as it descended, toward the north; and that the injury, after all, was evidently done on the southwest side of the tree, at some distance above the ground; and the scalded and vicious sap there produced, settled with the grain of the tree, by an obvious law, round and down to the northwest side where, like other dead matter, it accumulated to poison the bark, or to freeze and peal it from the trunk the next winter.

It is obvious how rich soil or high culture, with the plough or with manure, or excess of moisture, would materially and necessarily increase these dangers and evils by increasing the plethora and stagnation in the return sap; and if sudden cold is the

ultimate cause of the final catastrophe, as some think in other parts of the country it is, it is still obvious how in that case this high culture should hasten the final catastrophe In that case, there would be an artificial excess of return sap in the stem, unprotected from the cold, just as in the other case the same plethora is unprotected from the heat.

The case of the scions alluded to above, in connexion with all other facts, convinces me that all our blight here is produced, in fact, by the hot sun in summer, though not generally developed to the eye until severe cold occurs in winter, or perhaps not until the ensuing spring or summer. That cold may produce similar effects elsewhere, is perhaps both natural and probable; but I have never seen it.

The PROXIMATE CAUSE, then, of blight here, both in the apple and the pear, is the effects of the hot sun upon the unprotected trunk and branches of the tree, while the return sap is in an unnatural condition of plethora. It is not unlike, either in its predisposing or proximate causes, to the disease familiarly known in the west by the name of sun-stroke, in the human system.

The PREDISPOSING CAUSES are, *first*, a general hereditary debility of those kinds of trees that have been through several generations, propagated without bringing them in contact with the vital energies of healthful seedling roots; and toward the same results the apple is fast tending in these parts, and probably wherever the same absurd mode of grafting is practiced upon a rich soil, and under a hot sun.

Second, the interference in pruning, in interrupting the general healthful functions of the tree, and particularly in violently disturbing the natural and necessary equilibrium between the capacities of the tree for transferring its ascending and descending currents of sap; this latter point deserves to be presented more in detail, both in its philosophy and in the nature and extent of diseases it is liable to produce, both in the bark and in the trunk, and finally in the top. But I cannot tax your patience or that of your readers further on the subject at present. Meantime, I apprehend that it will be found, at last, that the term "fire-blight," or "frozen sap-blight," is not a specific name, but only a general term, to signify analogous modes of disease, arising from the same predisposing causes, but developed by a variety of proximate causes, like fever in the human subject; and that while we may postpone the catastrophe in single cases by attention to soil and culture, we shall never get rid of the constitutional tendency and latent debility of the predisposing causes, until we study the nature of trees more, and apply the *nature* of the knife and the saw less, until, in a word, both in grafting and pruning, we learn how to interfere with nature as little as possible. I went last winter to see an apple orchard some forty miles distant, belonging to a man too old and too lazy to touch it with a knife or saw. At first view, it looked horribly. The trees were all bushes, or rather thickets, having all the shoots of fifteen or twenty years' growth standing on and around the trunk, or what was originally intended for the trunk of the tree. Yet this orchard was overloaded, in all its tangled branches and clusters of sprouts, last year with fine fruit; and is the only one I have ever seen in the state, of the same age, that had not a single tree affected with the sun-stroke, as I have called it, or frozen sap-blight, if you please.

Doubtless, in some cases, these several causes produce their effects—each without the aid of the other; but so far as I have noticed, where the three coexist, speedy and

premature death, especially on a rich soil and with high culture, is absolutely certain.

The general remedies will be plain to all.

The blight on the trunk of the cherry tree, arising from similar principles, is, however, in these parts, in one respect entirely peculiar, and can be explained only by referring to the cause which produces the peculiarity; which, if you and your readers have patience, I shall do in some future number. Meantime, I shall hope to see your strictures freely and fully presented upon what I have already written.

Respectfully yours, J. B. TURNER.

Illinois College, August 1, 1848.

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[We commend the foregoing most interesting article to the careful perusal of every reader interested in the culture of fruit trees. Want of space compels us to postpone any comments till our next number. ED.]

THE COL. WILDER RASPBERRY.

BY DR. W. D. BRINCKLÉ, PHILADELPHIA.

[WE are much indebted to our correspondent for an opportunity of first publishing the figure and description of the following valuable acquisition. We have seen the original plant, and from our own judgment, and the high opinion we hear expressed of this fruit by some of the best judges in Philadelphia, we think we may congratulate Dr. BRINCKLE, who is one of the most zealous devotees of pomology in Philadelphia, on having originated a new *yellow* raspberry, far superior to any existing varieties of its class. ED.]

Fig. 22.—*Col. Wilder Raspberry.*

My Dear Sir—In compliance with a promise made some time ago, I send you, for the Horticulturist, a drawing and description of the *Col. Wilder Raspberry.* The drawing was taken by Mr. HOFFY.

In the spring of 1846 I planted the seed of a fine berry of the Fastolff raspberry. Many of these seed vegetated, and several of the plants fruited in 1847. Among them was one which I named the *Col. Wilder,* in honor of my highly valued friend, the president of the Massachusetts Horticultural Society. It was planted within two feet of its parent, the Fastolff. The winter of 1846 and '47, killed the Fastolff to within a

foot and a half of the ground, while the Col. Wilder was uninjured, and bore fruit in 1847 of good size. During the summer of 1847 it sent up a very stout shoot, from which, in the fall and winter, many cuttings were taken and sent to horticultural friends in various parts of the country. After taking off these cuttings from the top and branches, the plant was still eight feet high, and fruited, the present season, to its summit. The fruit commenced ripening on the 15th of June; and from that time it continued to have ripe fruit, in abundance, till the first day of August, when the old wood was cut away. The original stool stands in my yard, on the west side of a board fence, six feet, four inches high. This variety is uncommonly vigorous. Prickles white,—leaf, much crimped,—fruit as large as the Fastolff, roundish, cream coloured, semi-transparent, glazed, with prominent pips. Flavor fine.

I remain, my dear sir, very sincerely, yours, W. D. Brinckle.

THE ONONDAGA AND OTHER PEARS ON QUINCE STOCKS.

BY P. BARRY, ROCHESTER, N. Y.

In your "Domestic Notices," of last month, it is stated by Mr. Henry H. Crapo, of New-Bedford, that he has succeeded badly with the Onondaga on quince stocks. I am surprised at this, inasmuch as it grows admirably with us, and in all the nurseries and gardens here, where it has been so worked. Failures, such as Mr. Crapo's, occur frequently in the propagation of trees, and it is difficult to detect the real cause. We cannot yet say how *durable* it may be, or how it may *bear;* but certain it is, that, so far, it *grows well.* We have at the present moment, growing in the nurseries here, more than 1000 trees from 2½ to 4 feet in height, quite stout, and many of them well branched, the growth of the present season, on small quince stocks. Indeed, it grows better than *White Doyenne*, Bartlett, or Madeleine. Mr. Crapo must try farther. The first season that we worked the pear on quince stock, extensively, our Eeaster Beurres were a complete failure; they grew 10 or 12 inches, while others in the same row, and on same sort of stocks precisely, and worked on the same day, were 4 to 5 feet. We thought it strange, as it grew so well on the quince in France; we tried again, and it grows well—not tall, but stout and bushy. So with *Seckel;* the first year we worked it on quince it failed; last year and this we have had as fine and as vigorous a growth as we ever have on pear stocks,* and so on, with many other kinds.

The *Osband's Summer*, or *Summer Virgalieu*, grows and bears well on the quince, and is one of our very best early pears,—superior, as we think, to the Bloodgood; certainly more beautiful, and as early—in our markets this season about the 6th of August.

The *Doyenne d'ete*, quite similar to the foregoing, but ripening two weeks later,—grows and bears exceedingly well on the quince. This is one of the finest pears of its season. The *Bloodgood*, *Dearborn's Seedling*, *Tyson*, *Buffum*, *Stevens' Genesee*, *Oswego Beurre*, all fine American pears; grow freely on the quince, and I have no doubt will bear well. We should have been able to speak more certainly on the

* The Seckel is one of those Mr. Rivers says requires double working. (Hort., vol. 2, page 70.)

latter point, but for the hail storm that visited us in May last, when trees were in blossom, and scarcely left us a single fruit of any kind. The *Rostiezer* grows on the quince as freely as a Jargonelle, and proves to be one of the finest summer pears.

Excepting *Beurre Bosc*, *Winter Nelis*, *Maria Louise*, *Gansell's Bergamot*, *Urbaniste*, *Flemish Beauty*, and *Dix*, we find all the most popular pears to grow freely when budded on vigorous, free growing quince stocks. The *Dix* will not grow more than six inches to a foot in one season, and the union is so imperfect that it cannot be permanent; but it double works admirably; in this way, it seems to grow stronger than on pear, and the fruit will probably be finer.

As to the nomenclature of the quince, there seems to be much diversity of opinion, and no very clear conceptions on the subject in any quarter. You state, in the last number of your journal, that the kind we cultivate here as the *Portugal*, is the apple quince. In this, I think you are mistaken. It may not be the Portugal, though it is cultivated by the French as that, and sold as that.

A neighbor of ours, a very careful and observing cultivator, has grown them side by side for the sake of comparison; and he says they are different, but the difference is not great.

The Portugal which we have long grown by budding — has, as you remark, longer leaves.

Among our importations from France, of what they call Portugal, we have obtained a variety that appears to us perfectly distinct from any other. We send you a couple of specimens; one, the smaller, grown from a cutting this season, and the other last season. If they reach you in good order, you will see how completely distinct they are from the Apple, Portugal, or any of the common sorts. They are quite branchy; and every branch takes a perfectly upright direction, giving them a peculiarly dense and erect habit, so that the rows in the nursery look like rows of miniature Lombardy poplars. The leaves are small and more reflexed than those of any other. The contrast between them and the other sorts immediately strikes every one who sees them. This, undoubtedly, *is to be* the quince for stocks. It grows from cuttings as freely as willows. The rows of cuttings of this season, in our grounds, are uniform and full, while others beside them, treated similar in all respects, have lost a half and three-fourths. They grow more rapidly, too, than the others; and the pear seems to take better on them. Perhaps you may have seen it, or heard something of it. Loudon had never seen this variety when he wrote—"the Quince is a low tree, with crooked stem and tortuous rambling branches." If it has not been named, I would suggest that it be called *Cydonia fastigiata*.

P. Barry.

Rochester, N. Y., August 18th, 1848.

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[The specimens of this variety of quince, sent us by Mr. B., had not arrived when this sheet went to press. Ed.]

REVIEW.

FLORE DES SERRE ET DES JARDINS DE L'EUROPE, 8vo., tome iv, A Gand, LOUIS VAN HOUTTE, Editeur. Jan. to July, 1848.

WE noticed, in a previous volume, this beautiful monthly periodical, published by M. VAN HOUTTE, at Ghent. Since that time, it has been enlarged, improved, and somewhat varied in character, and well deserves a second notice.

It is edited with ability by M. VAN HOUTTE, (himself one of the most skilful horticulturists on the continent,) assisted by eight distinguished botanists and cultivators, among whom are BROGNIART and A. DE CANDOLLE. It is issued monthly, in large octavo form; and each number contains *ten plates*, admirably coloured, besides smaller engravings, representing the habit of the plants, &c. &c. It is devoted, as its title implies, to a delineation of all the rarest and most beautiful plants newly introduced into Europe, with descriptions, embracing their history, botanical character, culture, and uses in domestic or rural economy.

The work resembles, in general character, that standard English serial, *Paxton's Magazine;* but we greatly prefer it, as being more correct in its plates. These, while they are beautifully executed, are more *truthful* portraits of the plants than those of Paxton, which are sometimes greatly exaggerated in size and colour. In short, to those who read French, (in which language the letter press is written,) this Flora may be recommended as being the best botanical and floricultural gallery of rare plants at present published.* M. VAN HOUTTE's celebrated garden, at Ghent, alone furnishes specimens of numerous new plants, and the leading collections of Great Britain and the continent, are also put under contribution for its pages.

We shall briefly notice some of the plants figured in the late numbers before us, which may be most interesting to our readers.

Plumbago Larpentæ.—This is a fine representation of this new Leadwort. The flowers—a fine dark cobalt blue—are produced in innumerable clusters; and as the plant is one of those collected in the north of China by Mr. FORTUNE, there is little doubt that it will prove quite hardy in this country. It will be a superb plant for beds and masses in the flower garden.

Pæonia tenuifolia, fl. pl.—A very fine double variety, of the pretty fennel-leaved garden Pæony; well worthy of introduction into the United States. The flowers dark crimson.

Gloxinia Fyfiana.—A beautiful hybrid variety, bearing upright flowers, pure white, with a rich, blue throat; very handsome.

Tricosanthes colubrina.—A singular cucurbitaceous plant, with fruit six feet long and two or three inches in diameter. It is a vine, and, when trained on a trellis, its pendant fruit, looking like long variegated serpents, and its curious and beautiful white fringed flowers, render it a very striking object. It is grown as easily as a melon in a rich warm border.

Achimenes grandiflora.—A beautiful acquisition to this pretty genus of Mexican greenhouse plants. It is a very distinct and attractive species, with large white flowers, whose throat is golden yellow, and corolla distinctly spotted with purple. It also possesses an agreeable odor.

Statice imbricata.—Exceedingly novel and beautiful; from the Canaries. It forms

* The subscription price is 36 francs. It may be ordered through any of the importing booksellers.

a tall herbaceous plant; the stems winged, (somewhat like Ammobium alatum,) and terminated by large corrymbs of exquisite pale blue blossoms. It is a green-house plant of rare beauty.

Brunsvigia Josephina.—A fine plate of this well known Cape of Good Hope exotic; one of the grandest of all bulbous plants,—the bulb growing as large as a man's head, and supporting a superb umbel of 50 or 60 flowers. M. Van Houtte gives us the very agreeable news, that this bulb stands the winter in the open air, in Belgium, with only slight protection.

Camellia Wilderii, and *C. Mrs. Wilder.*—These two American seedlings, raised by the President of the Massachusetts Horticultural Society, are figured and very highly praised by M. Van Houtte. The former, which is a clear light rose colour, is pronounced—"superior to most of the finest camellias that we possess." Of the latter, one of the editors says—"this is *perfection* in the fullest sense of the word among modern horticulturists. The imbrication is perfect; the petals extremely numerous, (90 to 100,) rounded at the circumference of the flower, and slightly ovate towards the centre; are pure white, but painted with two or three delicate lines of rose colour down the centre. The foliage is large, and of a fine rich green; and the shrub itself is remarkable for its vigor and fine habit."

Camellia General Lafayette, is another superb variety, originated by Mr. Boll, florist, New-York. The flower is fine, the petals cupped, the colour deep rose, marked with broad band-like stripes of white down to centre of each petal.

Agalmyla staminea.—A Java plant, with brilliant scarlet blossoms, requiring the hot-house.

Fuchsia spectabalis.—A very large magnificent Fuchsia lately discovered in the Andes, and brought to Europe by M. Lobb, the botanical traveller. Dr. Hooker, who has bestowed on it the epithet of—"loveliest of the lovely," places it at the head of all Fuchsias. The flowers are very large, with a tube an inch and a half long, and the petals expanded, like those of the oleander. The colour is a brilliant red, the foliage large, and the habit of the plant vigorous.

The commercial florist and nurseryman, who wishes to keep himself informed of the most interesting novelties of the day, will find this monthly an invaluable assistance; with the advantage, too, that the Van Houtte Garden, at Ghent, will supply any of the new or rare plants that are described in the work itself.

As a beautiful example for the library or boudoir, of a richly illustrated foreign work, there are few more interesting to the amateur of plants than the *Flore des Serre.*

FOREIGN NOTICES.

Notes from the Continent.—[We give some further extracts from an interesting letter, received from our foreign correspondent by the last steamer. Ed.]

* * * At Lausaune we saw a lawn, kept by the *scissors and broom*, by two women, who clipped some part of it every day. It was, of course, not large—perhaps an acre; but it looked like a piece of green velvet of the choicest pile. It was so short that it was almost difficult to seize in your fingers a blade of grass, and so thick that you could not see the soil through it. * * * * *

In the neighborhood of Frankfort, we went to a German party in the country, at a fine English-like place, where, though in the evening, everything was done out of doors. We were received in a quiet secluded part of the grounds, beneath some immense trees, the lower branches of which were hung with pretty variegated paper lanthorns. Half a dozen tables stood about, with their different tea

equipages—each table having one or more servants, who poured out the tea; but the ladies of the house themselves handed it to the guests. The evening was passed under these illuminated trees, or near some pretty fountains, or wandering about the dusky walks. At 10 o'clock we went in to a table, laid with a fine service of silver and glass, and commenced a *sit-down-supper* with a large dish of green peas, *having a vase of cold butter in the centre. After* this came roast venison, larded over most curiously with figures of the chase, the game, salads, and the *sweets*. * * * * *

From Ems back to Coblentz, and so down the rest of the Rhine; for no one goes beyond Coblentz. And here, let me say, in my opinion, the Rhine does not by any means equal the Hudson. It did not strike me that there was a hill 500 feet high except perhaps the Seven mountains, which may be 800 feet. Most of the castles are like excessively *old wine;* you can't tell what to make of them! I believe you give me wine, when I drink some invisible green, pale, tasteless stuff, because I believe you. We believe the guide books, pointing out this and that castle; but I assure you, they are in many, and I might say, in most instances, so dilapidated that they resemble nothing but a perpendicular rock, with some loose blocks of stone lying about it. There are, however, three or four very interesting ones. The best is Stozenfels, belonging to the king of Prussia; but it is a restoration, at an enormous expense, upon the old foundation. It is really admirable—far surpassing Warwick castle—especially as it is furnished entirely in the antique style. There is also another restoration in progress, belonging to the crown prince of Prussia.

To *Americans*, the scenery upon the Rhine is *not* grand. To the English, its principal varnishers, who have no grand scenery at home, I can easily imagine its charms; as also to the Dutch, Belgians, Germans, &c., whose scenery is even tamer than England. But I am sure all Americans who know the river are disappointed. I certainly was; and ———, whose recollections of the Rhine were before a more recent familiarity with the bolder parts of the Hudson, was grievously so. * * * * * * I was much pleased with Holland; though from the steeple at Utrecht, you can see the whole of it. The Hague is a most charming place. Though the residence of the king and court, it does not seem a town, but rather, a great, clean, shady New-England village; like the best parts of New-Haven or Northampton. I mean, more particularly, in the immense elms that shade every street, bordered on one side by the canal. The court here is a very quiet one; and there is not the least show or parade, even in or near the palace. We were in a hotel opposite the royal park, with merely a gravel drive between us and 200 or 300 deer grazing under the finest trees; they were separated from us by an invisible *ha-ha* fence. The "forest" at the Hague quite realizes my ideal of a forest: no underwood, but some 200 acres of immense timber trees, with long perspective views, crossed and threaded by innumerable alleys and walks, as well as lakes, rivers and islands; but never allowing the sun to come in, except in those *flickering lights* which have such a delightful effect in woodland scenery. Through the whole forest run several grand avenues, 50 feet broad and 3 miles long, with giant trees, whose branches meet some 60 feet over your head. Imagine every avenue, walk, glade, and alley filled on Sunday, from 2 to 8 P. M., with some 20,000 well dressed people—children innumerable, and the whole enlivened by the music of several fine military bands; all the walks nicely gravelled, the water filled with swans and aquatic birds, everybody animated, well dressed, and apparently well bred, and you will have an idea of one of the gayest sights I ever saw. * * * Let me tell you, also, of *Booth's nursery*, in Holstein, one of the Danish provinces. The head gardener, who is English, told me that it is the largest in extent, means, &c., in the world, and gave me the following particulars: It consists of 180 acres, and requires an average of 130 men, and 20 women, to cultivate it. In the packing season 80 packers are employed, day and night, at wages averaging 9s. sterling per week. The average profit for the last 30 years has been £3,000 ($15,000,) though for 12 years the elder Mr. Booth netted £10,000 per annum for the sale of *dahlias* alone. To the cultivation of this flower *eleven acres* are still devoted, and they have some 2000 varieties. The collection of Orchids is said to be the finest in the world. I saw some 20 or more sorts of these rare air-plants, each of which sell freely (principally to Russians,) for 60 guineas each. There are 22 hot and green-houses; and I have never seen any in such perfect order. They are from 50 to 120 feet long. The collection of fruit is not large; but of Orchids they have 2000 varieties, and the collection of ornamental trees is enormous. See, for example, in the following genera:

Of Acers—47	species	and varieties.
Alnus—19	"	"
Andromeda—26	"	"
Betula—30	"	"
Clematis—28	"	"
Crategus—60	"	"
Fraxinus—45	"	"
Quercus—85	"	"
Pinus—71	"	"
Abies—15	"	"
Picea—23	"	"
Taxus—15	"	"
Thuya—14	"	"

Strange to say, these evergreens are nearly all grown in pots; as nothing but the Norway and Balsam firs will withstand their climate. Among trees and shrubs rare to me, I noticed a *weeping birch*, peculiar to Germany. It had *descending* shoots 32 feet long. The branches hang as *perpendicularly* downward as those of either the *Sophora* pendula or the common weeping willow, and are quite as delicate and pensile as the latter. That pretty vine, *Tropeolum pentaphyllum* is said to be perfectly hardy here, where the Cedar of Lebanon will not stand the winter. *Cupresus distircha*, an *evergreen* variety; but in colour and habit precisely like our deciduous cypress, and with a rather larger leaf—is also perfectly hardy; though the deciduous cypress itself has to be protected. There was a weeping oak on the lawn rather pecu-

liar; it resembled, in the rigid droop of its branches, the weeping ash, with a leaf much like that of our *pin oak*. The evergreen cypress would be a great acquisition to American pleasure grounds; it is of such a bright, cheerful green. Peaches will not stand in this part of Denmark; and pears and apples suffer much from our *fire blight!* The gardener said he had lost a great many wall pear trees in England from the same disease, and he was convinced that the only remedy is *severe* root-pruning to prevent vigorous growth. Pray tell this to that unfortunate pear cultivator, ——.

20th July.—We spent yesterday at Potsdam. This deserted-looking city is, as you well know, interesting from its connection with FREDERICK THE GREAT. There are six immense palaces, within half an hour of each other, containing from 300 to 400 state rooms, filled, like all other palaces, with pictures, statuary, &c., and some rooms 100 ft. long, are entirely covered with mirrors and gilding. This palace-seeing becomes, after ten months' practice, rather heavy work. * * * Prussia is perfectly flat and sandy; and the grounds at all these palaces (for they have mostly 100 or 200 acres each,) are kept at great expense by watering. Upon the lawn in front of the terrace, at Sans Souci, was a clump, consisting of Indian corn, Indian shot (*canna*,) and mullen in flower, and in another place a large mass of rhubarb; all these grown here for ornament! There is plenty of "snap dragon" in Prussia. At Sans Souci, Frederic's favorite residence, we saw 600 orange trees in boxes 180 years old,—especial pets of the great monarch, and originally belonging to his grandfather. * * * Yours, very truly, *H. W. S. Berlin, July*, 18, 1848.

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POMOLOGICAL NOTES—*A. J. Downing, Esq.*— I have a seedling pear which fruited last autumn and ripened in April. It is from Easter Beurre. Only two plants came up; and one of them will, I think, prove one of the hardiest and best late sorts we have. So much for chance! The pears, *Susette de Bavay*, *Jesephine de Malines*, and *Beurre Bretonneau*, originated by the late Major ESPERIN, are worthy of especial notice. The first is my favorite; it forms such a handsome pyramid, and is so hardy and excellent. If I was in your country, I should plant 10 acres of that sort alone.

A great deal was said last year in France about *Bigarreau Monstreux de Mezel* cherry. I have a very strong belief that it is our favorite Bigarreau gros cœuret. The trees of both sorts are growing side by side here, and are *exactly* alike. Wishing to make sure of having it correct, I ordered it from three of the continental nurseries. All are alike; and I believe all are *gros cœuret*.

May, here, was hot and dry. June and July, cool, showery, pleasant and growing weather. August has commenced in like manner,—weather very pleasant, but not hot enough for fruit. Pears and plums are a very short crop. Wall-fruit. i. e., apricots, peaches, &c., abundant. I am, dear sir, yours, very truly, *Thos. Rivers. Nurseries, Sawbridgeworth, Herts., England, August* 1, 1848.

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GERMAN POMOLOGY AND HORTICULTURE.—[We extract from a letter lately received from a German horticulturist, residing on the shores of the Baltic, the following items, that may interest some of our readers. ED.] * * * Looking round for some German pomological works, which might be of use to you, I found in the list prefixed to your own work on "Fruit Trees," that you are already in possession of the most valuable one, so far as regards kernel fruits, viz., that of Dr. DIEL. There are scarcely to be found any descriptions of apple and pear trees upon which more confidence may be placed. Dr. DIEL was a zealous amateur of the culture of fruit trees; a man of great knowledge and the strictest veracity. All his descriptions are the results of personal observation. His experimental garden was situated in the beautiful valley of the river Lahn, in the duchy of Nassau, and was highly favored by the soil and climate. His complete work consists of 27 small volumes; and, though it is far from being exempt from errors, Dr. DIEL's statements are still the first authority in our country. You will find in this book, for the most part, an accurate description of the growth and habit of the trees, their shoots, foliage, &c., which I beg to remark with reference to an article of Mr. PHŒNIX, in your *Horticulturist* of 1847, p. 355. Our best pomological authors will not neglect to add the necessary remarks about the vegetation of the tree, which in many cases is very characteristic. There is an abundance of pomological books in German literature; but the greatest number of authors have mixed their own observations with those borrowed from others, and in consequence thereof, are not to be relied on with certainty. I have, therefore, limited myself to sending you the following:—

Liegel's Anlietung Zur Kenntrick der Pflaumen.

Liegel's Anweisung mil welchen sorten verschiedene obstbaum-unlagen beselzt werden sollen.

Liegel's Ubersicht der Pflaumen.

Metzer, die Kernobslorten des sudlichen Deutschlandes.

This latter work is a description of the kernel fruit trees, cultivated in the southern parts of Germany, examined by a wandering [travelling] society, which makes excursions through the country for that purpose, identifying the dubious sorts, and taking notice of the false or provincial names under which the trees are known in their district. The result of these investigations proves that a deplorable confusion exists everywhere; and that a great number of contradictory names are applied to one and the same kind.

Hoping that you will find some notices in these books that will interest you, I shall not fail to send you new publicatcns of a similar kind as soon as they appear, provided they are not compiled from works already known to you.

You make, in the Horticulturist, page 24, a remark respecting the Arbor Vitæ which coincides with my observations. I have been in the habit of receiving American seeds from Messrs. THORBURN, from whom I once received a quantity of Thuya seeds, under the name of *T. occidentalis*; and another time, under that of *T. Americana*. The latter name is not mentioned in *Loudon's Arboretum*. Still, two varieties can clearly be distin-

guished in my grounds,—one of them having precisely the habit described by you. Truly and respectfully yours, *H. B. Lubeck, Free Hanse Town, June*, 1848. ....

THE LONDON HORTICULTURAL EXHIBITIONS.—We see, by the English gardening journals, that the great July exhibition of the London Horticultural Society, was more numerously attended than any upon record, no less than 13,823 visitors having been admitted by tickets.

When we state in addition that these tickets were sold at either 3s. 6d. or 5s sterling each, (say at an average of $1,) we place before our readers the means of judging, not only of the interest which the English public feel in horticulture, but also how much the society is patronised by the rank and fashion of England, for it is evident from the charge that a large part of this concourse of visitors must have been of the wealthiest classes.

These magnificent fetes are indeed among the great shows of London. They are held in the open air, in the Society's garden at Chiswick, in the suburbs of London. The flowers and fruit are arrayed in tasteful tents disposed on the lawn in various parts of the ground; several bands add the charm of music to the entertainment, and various members of the royal family and nobility, with thousands of ladies in tasteful costume, give gaiety and brilliancy to the striking scene.

The London Horticultural Society is the richest corporation of the kind in the world. Its assets are at present estimated at over £48,000, with a debt of a little more than £9000. Its income for the past year was abont £6,091, (say $30,000.) and its expenses £5,294. It publishes quarterly *Transactions*, including interesting original communications on horticulture, and maintains one or two botanical travellers, who are constantly in foreign countries searching for rare plants to enrich its garden. These rare plants are propagated and distributed to such members of the society as may desire them, and some idea may be gathered of the extent of this distribution by the following extract, which we make from the report of the garden committee for the last year :

"The distribution of plants, packages of seeds, and parcels of cuttings from the garden has been as follows :

	Plants.	Seeds.	Cuttings.
1847 '48—To members,..	6,071	44,041	3,085
To foreign countries, correspondents, &c.,.....	1,256	6,848	350
To her majesty's colonies,	116	519	86
Total,.....	7,443	51,408	3,521

"The garden committee have directed Mr. MUNROE in making this distribution, to keep in view as far as possible the principle of *not* propagating plants that are readily procurable at the nurseries, and also that applications are to be complied with according to the order in which they are made."

In addition to this, "all those Fellows of the Society who may be desirous of determining the names and qualities of fruits, are supplied with specimens of such varieties as the garden of the Society produces, on application to the Secretary. Not more than two specimens of any sort are sent, and the expense of the package and carriage is charged to the Fellows making application for them. If a second supply of the same fruits should be required, it is not furnished gratuitously."

We notice that "sixty-eight dozens of pears and sixty-one dozens of apples," named specimens, were sent out in compliance with the above regulation last season.

Most of our readers are familiar with the service which this society has rendered to pomology, by its Descriptive Catalogue of Fruits—the result of comparisons of thousands of varieties. A feature scarcely less valuable has been introduced lately in its management. This is "the trial of every experiment, however ludicrous, that has been so brought forward as to excite public attention ; the object being to enable the council to publish an official report of its fallacy, instead of denouncing it without a trial, which would rather strengthen than overturn the sinister object of schemes, and of reporting its success if it turn out well, upon an authority that cannot be questioned—the fair trial in their own garden."

The education of gardeners, practically and theoretically, is another of the most useful plans carried out by the Society. Practically, they are instructed in the labors of the garden itself, (which, in turn, thus has its operations performed at diminished expense,) and theoretically, by lessons on various subjects in horticulture, delivered by Professor LINDLEY, and other competent persons. The gardeners have a reading room and a library of more than 400 volumes.

We have given these few details in order to direct public attention to the importance of the labors of a horticultural society of the means and ability for good which the London society possesses. While it is evident that no one of our cities can, for some time to come, hope to support such a society, it is no less clear to our minds that such an institution, liberally supported by the United States government, would be productive of great public good in every part of the Union.

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NEW FOOD FOR FLOWERS.—Last spring I planted three dozen dahlias, and, on the same day, my neighbor, Mr. Neill, did the same. Our gardens being only separated by a light iron railing, we could watch what attention each paid his favorite plants, and I can safely affirm that the golden fruit in the fabled garden of Hesperides, was not more unceasingly watched, watered and weeded, than were his, Mr. Neill's, flower garden and mine. I remarked that his dahlias, and those in the surrounding parterres, were dwarfish, discoloured, and broken in the beautiful contour such flowers should preserve, when approaching perfection. They seemed to droop, while mine rose to a towering altitude, casting disdainful glances of superiority on those of their class in my neighbor's garden, as well as on the lowlier inmates of my own. My friend was surprised at my success, and continued his floral labors with more zeal, but with little

better results. My long acquaintance with flax led me to observe the effects it had upon the waters in which it was submerged, preparatory to breaking and scutching; I found that animal life soon became extinct, whether in the running brook, or in the stagnant pond if flax had been steeped there. Fish or insects could sooner exist in a vat of boiling liquid than in the steep water of flax. The knowledge of this fact, together with the recollection of the good effects of steep water on grass land, induced me to supply the roots of my dahlias with small quantities of the steep water; and my anticipations that benefit would be derived from it were more than realized, as your readers are already aware. I also applied flax water for the destruction of green fly, which continually infested my plants, and after an ablution of this water, I was glad to find they soon disappeared. In conclusion I may mention, that in order that this manure, which I have proved to be beneficial to Hydrangeas, Geraniums, Roses, &c., may be extensively tried, and as I am certain to have flax steep water during the summer quarter, I shall be happy to accommodate any gentleman who may wish to try its effects with a supply. *J. Hill Dickson, British Flax Scutching Mills. Gard. Chron.*

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Disbudding.—In the case of several of our cultivated fruit trees, experience has abundantly proved that the removal of shoots at an early stage of their growth (which from the adoption of a system of training, or a tendency in the tree to excessive luxuriance, are deemed superfluous) is both advantageous to the health of the tree and favorable to the production of handsome fruit. Pruning may effect the result desired, but it is a violent remedy, although necessary in some degree. Disbudding, properly speaking, is the art of preventing the development of useless buds at the expense of those which should be preserved, as it must be more advantageous to check an unnecessary shoot at an early stage than to wait until it has exhausted the tree of a greater or less quantity of sap; as it is probable that a proportion of roots is directly connected with vigorous shoots, it follows that derangement in the distribution of the sap ensues from their removal at the period of their full development. It is, then, generally advisable not to wait until a badly placed shoot is developed, but to suppress it early. With apples and pears peculiar judgment and discrimination are necessary; stopping should systematically be practiced. The excess of shoots produced by peach trees invites the practice we recommend. The same attention should be directed to vines. In our flower gardens much unnecessary growth may be prevented. Roses, for example, if judiciously disbudded, not only bloom better, but form finer and more vigorous plants. In fine, we advise a daily inspection of the sorts of trees we have alluded to. *Ibid.*

Japan Lilies in the Open Ground.—At the Rooms of the Hort. Soc. in Regent-street, Sept. 7, two plants of *Lilium lancifolium rubrum*, or speciosum, from Mr. Groom, of Clapham Rise, each a *single stem, bearing upwards of forty flower buds.* "My object in exhibiting them," wrote Mr. Groom, "is to show how well this variety of lily grows in the open ground; and as they are perhaps the finest specimens of single stems ever produced, a short account of their culture may possibly not be uninteresting:—

"A bed 4 feet wide, of common garden soil, was prepared about the end of November, 1845, by being dug and well broken with a fork, but without any manure, which I do not consider desirable in the cultivation of the lily. After the bed was raked level, the bulbs were planted on the surface 15 inches asunder each way, spreading the fibres regularly out. They were then covered 3½ inches deep from the top of the bulbs with a light sandy soil, composed of sand and fine mould in equal proportions; the bed was then raked level and left without further care, and it was *not* protected from frost or bad weather in any way; last autumn, after the stems were quite dead, the top soil was removed down to the bulbs, but without disturbing them, and fresh sandy soil was laid over them to the same depth as before. In this bed they flowered well last year, but were sadly injured by the hail storm of the first of August—so much so, that I feared I should have but a very indifferent display of them this season; they have, however, recovered their strength, and are now in luxuriant growth. It is from this bed I have taken the two specimens now forwarded, which were taken up and potted in the end of last week.

"I have now established the fact of this variety being equally hardy with the other sorts, and from the vigorous growth and fine colour of the foliage, it is clear it succeeds better in the open ground than when kept in a close green-house, fully illustrating the advantages to be derived from a free circulation of air in our glass-houses.

"I have grown the other kinds of Japan lilies in the open air with much success for some years, and have now many thousand flowers just bursting into beauty.

"I cannot help calling attention to this plant for ornamenting gardens and pleasure grounds, flowering as it does without any trouble, in the open borders at this period of the year, when good flowers are so much needed. It is also a most desirable plant in pots for decorating the conservatory, being very fragrant as well as beautiful." *Journal London Hort. Society.*

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New Fruits from Syria about to be introduced.—A Knightian medal having been transmitted to John Barker, Esq., of Suædia, for having introduced the Stanwick Nectarine, named at p. 272 of the first volume of our Journal, and which is much the finest nectarine in cultivation in this

country, letters of acknowledgment were addresed by that gentleman to the vice-secretary, from which the following very interesting extracts have been made :—

I beg leave to make the Society my humble acknowledgments for the honor which they have been pleased to confer on me, and which I regard as an earnest of the distinguished favor I presume to hope to receive at their hands, when I shall have introduced into England twenty varieties of

1. A new species called "*The Sweet-kernelled Peach*," among which are six varieties of the nectarine, all of equal, and some of superior value to the "Stanwick Nectarine."

2. A new species of the apricot with a sweet kernel, called "*Sheker Para*" (bit of sugar) of Ispahan.

3. "*The large sweet White Mulberry of Iran*," from which a syrup is extracted, hardly to be distinguished from syrup made from sugar. It is highly extolled by Sir Alexander Burnes in his "Travels in Bokhara."

4. A plum, with a sweet kernel, called "*Aloo Bokhara*," which is also celebrated by the same traveller. When ripe, its stone is in view through its skin.

5. The famous "*Pomegranate of Tabriz*," without seed, weighing from 50 to 60 ounces.

6. The still more renowned "*Quince*" of most parts of Persia of the same size; which ripens on the tree or in the store, losing all its austerity, and eaten at the dessert like a soft ripe pear.

This wonderful production of nature, and the "*Pomegranate of Tabriz*," are yearly forwarded in presents by caravan to Bagdad.

The Pomegranate is not eaten as are the common sorts, but is squeezed into a goblet, and drunk off like a draught of sherbet; and the highly perfumed odor of the "*Quince*" is such, in oriental exaggeration, as that, when there is a single ripe specimen of the fruit in a caravan, every one who accompanies it is conscious of its presence.

In bringing under the notice of the Horticultural Society the foregoing statement, be pleased, sir, to say that I have now in Persia, on his travels, my eldest son. Mr. Wm. Burckhardt Barker, who is using his best endeavors to enable me to procure scions of such of the celebrated fruits of Iran as I have failed in obtaining; and who, should his father perish before they are introduced into England, will certainly carry out such of my plans as may be *then* incomplete.

I am to-day packing, to be forwarded to my son-in-law, Mr. Warmington, 100 small Seedling Mulberries, budded with "*The large White Sweet Mulberry of Ispahan*."

At the same time will be forwarded to that gentleman 500 specimens of "*The Dwarf Apple of Armenia*." They are all much past the age of puberty, though only 18 inches high. I received them two years ago from Armenia, and they do not appear to have grown at all. They increase slowly in thickness. I have often seen them planted in pots and cases on the terraces in the city of Aleppo, of 40 and 50 years' growth, never exceeding 2 feet in height, nor in the thickness of their stems that of your forefinger, without their even having been pruned. To test the fact that their diminutiveness was not caused by their being always kept in pots and boxes, I planted out three of full 15 years' growth, and after keeping them 18 years in the open ground, found they had made no perceptible progress. I remarked that they bear best when their roots are cramped. They are very easily propagated, as they make abundant offsets, and take remarkably well from cuttings. Among the trees now sent, there are 17 which were made from cuttings two years ago; and 10, budded, at the same time with the Ribston Pippin, and other sorts. *John Barker. Journal Lond. Hort. Soc.*

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Black Prince Hamburgh Grape.—I have desired my gardener to send you a bunch of a seedling vine, I raised from a berry of what is usually called the Black Hamburgh Grape, but I believe it really to be what Speechley describes as the Red Hamburgh, or Warner Grape, the berry of which is black when properly ripened. The cross was obtained by impregnation with the pollen of the "Black Prince," which I consider, after more than forty years' experience, to be one of the best grapes we have—not of the perfumed kind. The only defect I find in the Black prince is that the berries grow too much crowded, and require so much thinning.

I therefore wedded it to the Hamburgh, with a view of obtaining a more loose open bunch, with the vinous acidity and richness of the Black Prince. This double object, I think, I have obtained. The seedling plants, for I raised several of the same cross, grew the first year in pots, with artificial heat, but were then turned out into the open ground without being trained to a wall. Here they remained, and the annual shoots cut down to one of two eyes, till I found the end of the summer shoots and the cultivated appearance of the leaves began to throw out tendrils with a few flowers. Cuttings were then taken from the flowering end of the shoots, and planted against a south wall. They came into bearing soon after this, and one or two of the most promising were two years ago planted in my vinery. But the wood produced, till this year, was small; now it is become more vigorous and strong. It ripens earlier than the Hamburgh, and colours with less heat and light. The plant from which I gathered the bunch you will receive was planted at the east end of a lean-to-roofed house, and only got a little morning sun, and that but for a short period, owing to the shade of a large willow tree. It had no top sun light from the roof glass, being under the shade of a rafter vine. You can therefore not judge what the flavor will be under these disadvantages. I expect the bunch and berry will be double its present size when trained under the roof glass, and the wood becomes strong.

We have had the coldest and most cloudy season I ever remember for the vines on the open walls. Still I think my new seedling varieties will ripen, if we have no severe frosts before the

end of the month. I have named the new variety the "Black Prince Hamburgh." *John Williams. Pitmaston, Oct.* 13, 1847.

Note by Mr. Thompson.—The grape in question is a seedling, raised between the Black Hamburgh, which was the female parent, and the Black Prince.

The bunch weighed 1 lb. 3 oz. It was loosely formed, with long shoulders; and long, rather slender, pedicles. The berries are oval, being about nine-tenths of an inch in diameter from the insertion of the stalk to the opposite end; and eight-tenths in the transverse direction. The colour is a blue black; in this respect resembling the Black Prince more than its female parent. The juice is more purple than that of the Hamburgh, and is sugary and rich. Seeds, two or three in each berry. The variety deserves to be propagated. *Journal London Hort. Society. Oct.* 21, 1847. ....

DOMESTIC NOTICES.

Great National Convention of Fruit Growers.—It is proposed to hold a central convention of fruit growers and pomologists in the city of New-York, during the great fair of the American Institute.

The Institute having kindly offered to aid in carrying out said views, the convention will hold its sessions at Judson's Hotel, No. 61 Broadway, New-York, commencing Tuesday, the 10th of October, at 10 o'clock, A. M.

Among the objects to be proposed at this convention, are the following:

To compare fruits from various sources and localities, with a view of arriving at correct conclusions as to their merits, and to settle doubtful points respecting them.

To assist in determining the synonyms, by which the same fruit is known in different parts of the country.

To compare opinions respecting the value of the numerous varieties already in cultivation, and to endeavor to abridge by general consent the long catalogue of indifferent or worthless sorts at the present time propagated by nurserymen and fruit growers.

To elicit and disseminate pomological information, and to maintain a cordial spirit of intercourse among horticulturists.

In order to increase, as much as possible, the interest of the convention, the delegates are requested to bring with them, (carefully packed and labelled so as to present them in good order,) specimens of all fruits grown in their vicinity that may be worthy of notice, together with a small branch and leaves of each variety if possible.

In localities where any well known old varieties flourish particularly well, specimens are desired, accompanied with memoranda respecting the soil upon which they grew, and their culture.

Every contributor is respectfully requested to make a list of his specimens and present the same with his fruits, in order that a report of all the varieties entered may be submitted to the convention as soon as possible after its organization.

The undersigned, in behalf of the societies they represent, respectfully solicit *delegations* from all horticultural and agricultural societies of our country, and of such number of persons as each society may deem expedient to send.

Societies will please transmit, at an early day, a list of the delegates they have appointed, to the corresponding secretary of the American Institute, T. B. Wakeman, Esq., New-York. *Marshall P. Wilder, Samuel Walker, Ebenezer Wight*—Committee of the Massachusetts Horticultural Society. *Thomas Hancock, Dr. Wm. D Brincklé, Dr. Thomas M. Ewen*—Committee of the Pennsylvania Horticultural Society. *Philip Schuyler, Dr. R. T. Underhill, Chas. Henry Hall*—Committee of the Board of Agriculture of the American Institute. *July 28th*, 1848.

[We publish the foregoing circular of the pomological convention for the purpose of bringing the subject before the public generally, though copies of it have, we understand, already been sent to all the horticultural societies in the country. We again beg leave to urge the attention of the horticultural societies to the importance of sending only persons skilful and experienced, (either as pomologists, fruit growers or nurserymen,) as delegates to this convention. It will, no doubt, be the most interesting and important assemblage of the kind ever held in the country. Ed.]

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The New-York State Agricultural Fair.—Unusual preparations have, we learn, been made this season for the approaching Fair of the State Agricultural Society, which is to come off at Buffalo on the 5th, 6th and 7th days of September. The Buffalo Horticultural Society, backed by all the active intelligence of the amateur and professional horticulturists of the western part of the State, will no doubt lend their aid to render the horticultural department of the show worthy of the occasion. When such zealous devotees of the art as Professor Coppock, the president of the Buffalo Horticultural Society, L. F. Allen, Esq., the president of the State Agricultural Society, Col. Hodge, &c., undertake the management of a Fair of this kind, it can scarcely fail to be highly interesting.

The *Pomological Convention*, which is to be held at Buffalo in connection with the fair, will, we understand, be largely attended by horticulturists from various parts of the country, and will no doubt be an assemblage of more than ordinary interest. It convenes on Friday the 1st of September, at 10 o'clock.

MONTREAL HORTICULTURAL SOCIETY.—We observe, with pleasure, by the accounts of the exhibitions of this society, that a very lively interest in gardening is manifested in and about Montreal. The exhibition of June 28, was a very successful one. Among novelties were a fine show of ranunculus, from the garden of G. DESBARATS, Esq. The first prize for roses, fifty varieties, was awarded to Mr. TURNER. The finest strawberries shown were Ross Phoenix, from the garden of Jos. SAVAGE, Esq. The show of forced fruits, melons, grapes, nectarines, &c., was exceedingly good.

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NEW-HAVEN HORT. SOCIETY.—The secretary of this society desires us to say, that delegates from horticultural or agricultural societies throughout the country, (properly certified by their respective societies,) will be waited upon and cordially received by a committee appointed for that purpose, at their next annual fair, Sept. 26th, 27th and 28th, to be held at the State House, New-Haven.

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HORTICULTURAL EXHIBITIONS THIS MONTH.—New-York State, at Buffalo, on the 5th, 6th and 7th; Albany and Rensselaer, at Albany, on the 14th and 15th; Massachusetts, at Boston, on the 19th, 20th and 21st; Pennsylvania, at Philadelphia, on the 20th, 21st and 22d; and New Jersey, at Burlington, on the same days. [Gentlemen can visit both these exhibitions on the same day, the two places being at only one hours distance, by steamboat or railway.] New Haven county, at New Haven, on the 26th, 27th and 28th.

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ALBANY AND RENSSELAER HORTICULTURAL SOCIETY.—At a meeting of the executive committee of the above society, August 22, it was resolved that the days of annual exhibition be Thursday and Friday the 14th and 15th of September.

The following getlemen were selected to represent the society at the Pomological Convention to be held in New-York in October, viz:—Joel Rathbone, V. P. Douw. B. Kirtland, Herman Wendell, Luther Tucker, J. M. Ward and James Wilson.

The following to represent the society at the annual exhibition of the Massachusetts Horticultural Society, viz:—A. J. Parker, E. P. Prentice, J. McD. McIntyre, John B. Gale, Wm. Newcomb and George Gould; and the following to represent the society at Pennsylvania and New Jersey Horticultural Society annual exhibitions, viz:—V. P. Douw, D. T. Vail, Herman Wendell, Amos Briggs, J. M. Ward and E. Emmons.

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THE WILLEY STRAWBERRY.—In the July number of your journal it is remarked that this variety should properly be called "*Wiley*." This is a mistake. It is an old variety, originally brought here from New-York, the name lost, and again returned to you with the name of a lady of this place, instrumental in its dissemination. (See Albany Cultivator, vol. 3d, new series, p. 285.) The lady's name is most distinctly *Willey*. It is singular, as this variety has been fruited by many pomologists at the east, that it has not been identified with some previously known variety. My belief is, that it is the Hudson of LONGWORTH, and Mr. ERNST once told me that he could see no difference between them. I was much surprised at the Cincinnati strawberry committee's remarks upon it. With respect, *F. R. Elliott. Cleveland, O. Aug.*, 1848.

[We are glad to know, correctly, the origin and orthography of the name "Willey." We have fruited this strawberry, received both from Cleveland and Cincinnati for two years past, and consider it quite distinct from any variety well known here. Possibly it may be a new seedling, though taken from New-York to Cleveland. It is entirely distinct from the *Hudson* of Cincinnati—the berry less firm in texture, and less high flavored.

While on this subject we may remark, that we have fruited this season the Hudson of Cincinnati, as sent to us by Mr. ERNST, of the latter place. Mr. LONGWORTH imagined, when our work on fruits was first published, that we were ignorant of the true Hudson strabwerry, because we described it, (as indeed all authors before us had done,) as having a *neck*. Judge of our surprise, therefore, when Mr. ERNST's plants came into bearing in our soil, to find that with one half of the berries it was "neck or nothing"—they were the genuine old Hudson strawberry, familiar to us for 25 years. If, therefore, this strawberry has no neck at Cincinnati, we can only say that it has departed from its old established character, in emigrating to the west.

JAPAN LILIES.—You write me that your Japan lilies have stood the winter well in the open border. Mine also have done well out of doors, but do not grow so tall as those under glass. I exhibited in the society's rooms last Saturday, a seedling of the red sort, *seven feet high*, with 19 buds and flowers, 4 years old! The seedlings, though differing very little in the bloom, produce larger bulbs, stronger stems, and are more prolific in flowers than the original kinds. I have my camellia house filled with them now, and as they are all in bloom, it is quite a brilliant sight. Yours, *M. P. Wilder. Boston, July* 27, 1848.

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THE CURCULIO.—A neighbor of mine has succeeded, as he thinks, in preventing the depredations of the curculio by hanging in his trees open mouthed *jars* of ship varnish, or gas tar. His trees were much affected with the insect heretofore, but this year are full of fruit and free from injury. *M. P. W. Ibid.*

MANURING THE SECKEL PEAR.—In your last number you remark that the Seckel pear requires more manure than most other varieties. I can give another illustration of the truth of this.

Three years ago I opened a trench, three feet wide and sixteen inches deep, around an old and rather exhausted Seckel pear tree, that had not for several years previous borne any fruit worth gathering, so small were they in size.

This circular trench was dug at the outside of the ball of the roots, that is about four feet from the trunk, thus leaving a ball of eight feet around the tree untouched. All the earth from this trench I carted away, and replaced it with one peck of bone dust, four cart loads of stable manure, and enough good fresh soil to fill up the trench.

The roots started very quickly into the fresh and

rich soil of the trench. The tree began to grow rapidly, and soon put on a healthy show of leaves, and the succeeding year I had the pleasure of gathering a large crop of pears, of full size and delicious flavor. This year the fruit is still larger—indeed a third larger than any Seckel pears that I have yet seen. I am so well satisfied with the result, that I shall trench and manure in like manner seven other bearing trees of the same kind, that produce fruit of moderate size only. Yours. *A Bucks County Reader. Pa. Aug.*, 1848.

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The Pratt Pear.—*Dear Sir:* I have known this pear now two years, and am inclined to place it among the very best of American seedlings. Its good size and delicious flavor please every one. It appears to me that it has not yet been rated sufficiently high. What is your opinion? *New Haven, Aug.* 1, 1848.

[The Pratt is certainly one of the very best new American pears. We would place it among the twenty best varieties yet known.—Ed.]

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To Force Plants to Bloom, &c.—In common, I presume, with many other of your subscribers, I highly approve of the new feature of your magazine, in virtue of which amateurs, like myself, may propose questions on points of difficulty. Out of many queries I wish to propose, I select the following:

1. When water is withheld from green-house plants to make them flower, should the dryness be continued till the flower-buds appear? In other words, if the plants do not come into flower at the proper blossoming season, should the attempt to force them into flower be continued, or should they have water, and be allowed to make their new growth? (*a.*)

2. What are the best means of promoting inflorescence, when plants are inclined to grow luxuriantly without blooming? (*b.*)

3. Can you or any of your correspondents tell me how to get rid of the *Coreus hesperidus,—white mealy bug*, in my green-house? (*c.*)

4. Mr. James Dougall furnished, for your April number, an article on the cultivation of grapes in pots; a subject in which I feel much interest, but am unable to obtain from that article all the information I need in order to making experiments. Would some experienced cultivator be kind enough to furnish another article, containing more details as to the routine of culture? One point stated is, that the pots are to be placed in the open air till January, and *protected from frost*. This may be practicable in the climate of England, but I should think not in our own. By answering these questions, you will oblige *A Subscriber. Williamstown, Mass., July 5th*, 1848.

P. S. Your articles on the cultivation of Azaleas, Japan lilies, &c., were highly interesting and valuable. Will not others of your correspondents furnish plain directions for the management of *Gardenias, Rhododendrons*, and other green-house plants?

Answers.—(*a.*) Withhold the water only while the plants are *at rest;* when they commence growing, give them a liberal supply.

(*b.*) The simplest and best means is to *pinch out* the extremity of every young shoot, (after the plant has attained a blooming size,) as soon as it has grown three or four inches. Continue this till the plant is forced to form flower-buds.

(*c.*) Hot water is the best means in our knowledge of destroying this troublesome insect; but it must be used with judgment. Will some of our exotic florists favor us with an answer? Ed.

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Orcharding in Mississippi.—*A. J. Downing, Esq Dear Sir:* It may be pleasing to you to know something of the ripening of fruits here. I live about twelve miles east of Vicksburg, upon the first high land on the east side of Big Black.

Fruits ripen in Vicksburg, (hilly land, and protected by the large body of water flowing past it,) about two weeks earlier than here; therefore the ripening of my fruits must not be compared with those of Vicksburg. For instance, the Early York (not the "*true,*") ripened in Vicksburg say 28th of May, (earlier by 15 days than I ever knew it,) whilst the same peach, very probably worked from the same standard tree, did not fruit here before the 21st of June.

My first peach was the little White Nutmeg, ripe 1st June. Elmira, a seedling raised here, 8 inches in diameter, beautiful Red Cling, very good for the season, ripened on the 10th June.

Early Tillotson, on the	20th	"
Early York, ("true,")	21st	"
Early York, common,	21st	"
Bruges Beauty,	24th	"
Cole's Early Red,	24th	"
Early Red Rareripe,	26th	"
*Emperor of Russia,	28th	"
Poll's Melocoton	28th	"
Violet Hatif,	28th	"
President,	30th	" Good, beautiful.
Bergen's Yellow,	1st	July. " "
Snow,	1st	" Better than I expected, and measures 8 inches.

Apples.—Red June, ripe on the 18th June.

Summer Queen,	18th June.
Early Harvest,	29th June.
Early Bough,	1st July.

I do not think I have had specimens that were a fair test, and not from over half my early varieties. I am certain that I have some ten other varieties that should have ripened before this—owing to my culture, or the season. I have been pressing my orchard forward, not regarding the fruit, because I want the trees to have size so that I can cease planting a crop. A portion of my orchard I cultivate hereafter only as an orchard; will manure no more until I get a full crop of fruit. I cannot spare the time to cultivate as for market fruit. My profit will be in raising hogs, and I will plow once or twice a year, and manure if I find it called for.

I beg you will advise me what ornamental trees to buy, so as to intersperse with native growth. I want evergreens especially. Lying east of my house I have my Negro-houses, on a ridge running

* Emperor of Russia peach grows slow here for a year or two. No mildew; and when 4 or 5 years old, grows as well as any.

northwest and southeast. The hill-side next to house I wish interspersed with evergreens; it serves as a pasture for calves, &c., and an occasional bite for my horses; it contains about ten acres. I will enclose each tree so the stock will not injure it. I have the Tree of Heaven, Paulownia, Cedar, Arbor Vitæ. I lost Irish and English Yew, Oriental Cypress, and Cedar of Lebanon.

[We advise our correspondent to introduce the Italian and Swiss Stone-Pine trees, (which bear eatable fruit, and are very ornamental,) the Deodar Cedar, and the Araucarias. (*A. brasiliensis* and *A. excelsa*, are most lovely trees, that will undoubtedly bear the winter of Mississippi.) Also that beautiful evergreen the Deodar Cedar. Among deciduous trees the *Virgilia*, the *Pinckneya*, the Purple and Weeping Beeches, and the Weeping Larch, are all well worthy of his attention.—Ed.]

My yard is an intense shade—forest trees. I have some 50 Arbor Vitæ trees set out, and before I had an idea of such a thing, my sheep destroyed about 30. I thought fine sheep had more sense.

I find there are some planters in this section who begin to improve, and think we will in a few years have many beautiful residences.

I have here some few very choice varieties of peaches, which if you will accept as specimens on trial, I will send you. I think I can send you some three or four that will compare with Early York, Washington Free, and others of that high order. I allude to seedlings of my own raising, or those natives of this section. Yours truly. *M. W. Philips. Edwards, Miss., July* 12, 1848.

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Burr's Strawberries.—I notice in the Horticulturist that Wm. R. Prince advertises and names nine varieties of "Burr's Ohio seedling strawberries" for sale. Now I should like to know how he obtained them *all*, as some of the kinds named were not disposed of by me till last spring, and not then to him or any of his neighbors. Perhaps he can explain this to the satisfaction of the public. Yours. *J. Burr. Columbus, Aug.* 16, 1848.

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Norway Spruce in Exposed Sites.—I observe that in mentioning my trees—Norway Spruces—planted in an exposed site, for shelter, you gave them credit for growing fast in very poor land, on a high exposure. The land is very good, and was well mucked before they were planted, and every year since the grass and weeds have been kept from the trees. It is to this enriching and constant attention that I attribute the growth of the trees, in spite of their exposure to the bleak sea breezes. I must also add that it is owing, in a measure, to their being *planted closely* at first, so as to shelter each other. I have gradually thinned out these trees as they grew, so as not to allow their branches to touch, replanting those removed in other places.

I should think that, in the last four years, those trees on the top of my hill have grown, on an average, two and a half feet per annum. Some few of them will average three feet of yearly growth,—one grew four feet, so that at the present time, this plantation of Spruces, (made about eight years ago,) will average about fifteen feet high. Others planted at the same time, (then six inches high,) are now four or five feet high, though planted in a sheltered spot and good soil; but for the first five years they were neglected and overrun with weeds and grass, so that they scarcely grew at all. Three years ago I took them in hand, and they have now taken a vigorous start.

A good deep soil and constant cultivation are indispensable to the growth of any tree that is worth planting, and with these advantages I *know* that trees *planted closely* will defy exposure, even on the bleakest sites. Very truly yours. *J. M. Forbes. Milton, near Boston, July* 27, 1848.

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Siberian Kale.—Dear Sir—In your acknowledgments to readers and correspondents in August number of Horticulturist, you say that you have received from Messrs. J. M. T. & Co. "*seeds of Siberian Kale.*" The name is decidedly Russian, and it almost makes one's teeth chatter to think of this cabbage or kale, all the way from Siberia. The sight of your announcement immediately brought to our mind the fact, that in the "Gardener's Chronicle" for June 20, 1846, there is an article from the pen of Dr. Lindley on the very subject of *this* "Kale," and as it is appropriate and to the point, we give your readers the benefit of the Doctor's judgment. The Dr. wields a caustic pen when he's in the humor, and occasionally makes slashing work among the tradesmen of his own country, when they venture to deal too largely in humbug. But let's hear what he says about the "kale:"

"*That the craving for novelty* is insatiable, we all know too well; or if we doubted it, the avidity with which the world (of gardening) runs after every thing called new, would satisfy the most inveterate sceptic. To be new indeed, or to seem so, appears to have with half the world the same meaning as to be good. 'Well, Mr. C., what have you that is *new?*' is the first question asked of a seedsman; no one thinks of saying, 'What have you that is *good?*' It is novelty that is sought for, and not quality.

"This is strikingly exemplified by the way in which the excellent varieties of vegetable seeds annually distributed by the Horticultural Society are often received. The seeds are demanded, and when they are given, surprise, or something worse, is expressed that they are only vegetables. It is in vain to say these varieties of lettuce, onion, radish, celery, broccoli, are of the finest quality that art can produce. The answer is, 'pooh! that is all very well, but *they are not new;* we admit the excellence of the quality, but they are only the old things.' Imagine a man, whose dinner has been provided with the most perfectly cooked dishes, accompanied by the finest wines, crying out, 'This dinner is extremely bad; it consists of nothing but beef, mutton and venison; and as for the wine it is only sherry and claret.' And yet such a man would be indignant if his cook gave him horse-flesh and tincture of rhubarb, which he would deserve in return for his absurdity.

"To meet these difficulties, and to seem to minister to so silly a habit, cooks invent all sorts of outlandish names; they call broth *consommé;* white

sauce, *béchamel;* Parsley, *verd de persil*, and a stew, a *ragout*, a *godard*, or a *chambord;* while pea soup and stuffing are elevated to the honors of *purée* and *farces*. Can any thing be more ridiculous? and yet the seedsman is driven, by the absolute necessity of his position, to similar devices. And *not* dishonestly either. He feels that the evil is not of his own creation; that the practice is forced upon him, and that if he does not adopt it, his custom will desert him; and therefore he gets hold of some very good old variety, claps upon it a *new* name, duly advertises it, and lo! his desk is loaded with orders, and he at once becomes a man of enterprise and skill.

"A kind of cabbage, or rather winter green, is purchaseable under the name of 'Jerusalem Kale.' (Siberian is the *new* name.) Nothing can be better. It is perfectly hardy, and forms a most delicious vegetable, if sent to table dressed like asparagus It is doubtful if an esculent of more real excellence exists among us. It was described in the Transactions of the Horticultural Society nearly thirty years ago. Its value was pointed out by the late Mr. Wedgwood, who blanched it like sea-kale, and found it an admirable substitute for the latter, to which it is in our mind superior; but nobody grows it now-a-days, because it is not called a novelty, puffed and made the subject of exaggeration. If we ask what it has do with Jerusalem, (or Siberia,) we shall be puzzled to find the connection, the more especially since its claims are equal to a Prussian, Russian, Hungarian, (Buda,) and Manchester origin, for it has successively borne all these names.

"It is but another example of the advantage of substituting new and fine names for old familiar ones. Had any body attempted to sell it as a very good kind of Collard or Colewort, he would not have found a customer; or if he did, it would have been at the price of rapeseed; but a foreign origin was given it, with a fine sounding name, and a demand was created; new markets were successively obtained by other new names, but now ingenuity is exhausted, and it does not sell. Nobody grows Jerusalem Kale. Yet if it were properly advertised under the name of Hierosolymatanian Kale, and an ingenious fable were circulated about its having been found in a Pacha's garden on Lebanon, we engage to say that the demand would become enormous. The sale would be doubted if it bore the name of Ptolemaic Kale, and were shown to have been found in the folds of a mummy, so that its pedigree might be traced up to the pottage of the Pharoahs.

"Shrewd Mr. Cobbett found the value of these devices, when he discovered that the specious name of locust tree, and a flourishing account of its excellence, would prodoce him a crown, while the nurseyman could only get sixpence for the same thing, which he was simple enough to sell under the old name of Acacia."

Cobbett certainly was a cunning fellow, and has many imitators on this side of the Atlantic. To be successful in these times of 'progress,' one must be 'wide awake,' and not particularly squeamish in practicing all sorts of humbug.—*Wm. W. Valk, M. D. Flushing, L. I., Aug.* 8, 1848.

[This vegetable is at least very little known or cultivated in this country, and as early spring vegetables are especially desirable, we thank Messrs. Thorburn for a parcel of its seeds, received by them from abroad, under the double name of "*German Greens*" or "*Siberian Kale.*"—Ed.]

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Belle Magnifique Cherry.—I am glad to see you have placed this famous cherry in its proper rank. It has borne with us for three or four years, and has never failed to be large, beautiful and fine. The tree is very hardy and productive,—adapting it well to cold climates. It is decidedly the best, to our taste, of the late acid cherries; as it not only cooks well, but when fully ripe, is highly relished by many for the dessert. On the *Mahaleb* stock, it makes a beautiful prolific garden tree. Yours, *P. Barry. Rochester, N. Y., August 18th*, 1848.

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Gum Shellac Solution.—*Dear Sir*: I have tried your varnish of gum shellac and spirits of wine for pruning trees, (Hort., vol. 2, p. 533,) and fully agree with all that your Philadelphian says in its favor.

I have also to add, that in *crown grafting*, I have found it a perfect substitute for all bandages and other compositions. I have tried it with peaches, apples and pears, and have also succeeded in grafting a few sorts of roses with it, which before I had never been able to do in a single instance. I commenced spring budding on the 2nd of March, and have never at any season been more successful. I have always headed off to an inch above the bud and stripped off every limb and leaf, both below and above at the time of insertion. Yours, respectfully. *Robert Chisholm. Beaufort, S. C., July* 20.

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Magnolia Grandiflora.—We have examined this spring pretty thoroughly into the matter of "double," or "semi-double" varieties of this magnolia, and this is the result. No flower that I can find has more than 9 petals, but other trees growing in the immediate vicinity of these, bear flowers with only five or six petals. In the grove which Mr. M. and I searched, we thought the majority of the trees bore flowers with 9 petals. What cultivation will do remains yet to be seen. I measured one of the buds of the last mentioned, and found it more than seven inches in length and four in breadth, just before the petals began to unfold. This is quite a common size, but those with fewer petals are usually smaller every way, both in leaf and flower. The scent is heavy, less agreeable perhaps than the swamp magnolia of the north, as much so as the night-blooming Jasmine, (Cestrum,) is to the common white. The tree grows rapidly. Some seedlings of mine, that a year ago were only four or five inches high, are now four feet. Another plant is 5 1-2 feet and finely branched. I do not think this tree casts its leaves until it begins to bloom. Then when all other trees in the forest are putting on their summer robes, the ground is covered with the fallen leaves of the magnolia grandiflora, and the tree looks poor and ragged as white flowers begin to unfold. Before the flowers are over, however, it wears a very different aspect —the bright green leaves already clothing it, and forming the richest back ground for the remaining

full blown flowers. We have marked those trees whose flowers are finest, and intend sending you some seeds from them when they mature. I think the cone-like seed vessels were more ornamental than the blossoms, as their pink, velvet-like surface gapes or bursts, open here and there, and disclose the bright red seeds. It is interesting to watch them as they *shoot out* these seeds, which hang suspended from the cone by slender threads. Sometimes in five minutes, half the seeds in the cone will be thus displayed, the upper ones coming out more slowly, and the lower beginning to drop before all are open. Sincerely yours. *M. D. M. Port Gibson, Miss., July* 16, 1848.

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Strawberry Selections.—Mr. Downing: Permit me again to refer briefly to the strawberry question, in order to explain the apparent contradiction in the articles written by me at different periods, alluded to by Dr. Valk in the last number of the Horticulturist. The Doctor does not seem to discriminate between a mere *opinion*, and conclusions derived from carefully conducted experiments. In 1844, when my attention was first directed to the sexual character of the strawberry, circumstances induced me to venture the *opinion* that some *pistillate* varieties would fruit without being in the neighborhood of staminate ones, &c., but subsequent experiments by myself and others, put this question at rest, by *demonstrating* that they would not. I believe there is one circumstance to which I did not allude in my remarks in your July number. Though the receptacle is never entirely wanting, except accidentally, yet it is frequently defective in function, and will not under any circumstance produce fruit. Such plants might with some propriety be called *staminate*. We should then have three terms sufficiently characteristic of all the sexual differences, viz: *hermaphrodite*, both organs effective; *pistillate*, pistils only effective; *staminate*, stamins only effective. The latter class when produced from seed, should be destroyed, as their only use can be to fructify *pistillate* varieties; but this can be done as well by hermaphrodites, which will also bear fruit.

I agree with Mr. Downing, in considering the *Large Early Scarlet* a valuable kind. *Hovey's Seedling, Black Prince, Burr's New Pine, Crimson Cone*, and *Large Early Scarlet*, are perhaps five of the very best varieties for general cultivation that have been fully tested. *G. W. Huntsman. Flushing, Aug. 9th*, 1848.

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Cherry Currant.—I have had more than a pint of this variety this season. It fully equals the account in your last number; flavor and quality below the white and red Dutch; growth gigantic, and foliage thick and heavy. It is quite distinct from other currants, and will make quite a tree. Yours. *M. P. W. Boston, Aug.* 10, 1848.

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Salisburia adiantifolia.—Isee, on looking over my two bound volumes of the Horticulturist, no notice of this most interesting tree—the Ginko tree of Japan. I esteem it as one of the most curious and interesting of all hardy trees; for it is as hardy here as a poplar, and makes shoots three feet long in good soil. It is a cone bearing tree, but its leaves are wholly unlike those of any of the pine family, and bear a striking resemblance to those of the maiden-hair fern, (*Adiantum pedatum*,) except that they are about 1 1-2 inches broad. It is now to be had in all the large nurseries, and I am surprised to see it so seldom in pleasure grounds. There is a specimen in the Hamilton place near Philadelphia, 60 feet high. Yours. *S. Philadelphia, Aug.* 12, 1848.

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Something for the Curious.—There is a locust tree in Pittsfield, growing in a southern exposure, which had put out its flower buds in advance of other trees of the same kind. These flower buds some night last week were all killed by the frost excepting those that grew on one branch: on this limb of the tree, near the body, were two horseshoes left hanging; and all the buds beyond the point of contact with the iron are uninjured.

Query. Would not suspending a chain or old iron on the branches of a fruit tree, on frosty nights when fruits are advanced, preserve the fruit from destruction? *Pike Co. Free Press*

Wash for Buildings.—The following recipe was sent by a gentleman of New-Orleans to his friend in Philadelphia, who writes that the wash was satisfactorily tested upon the roof of the Phœnix Foundry in that neighborhood. It is not only a protection against fire, but renders brick work impervious to water. The basis is lime, which must be first slaked with hot water in a tub, to keep in the steam. It should then be passed, in a semi-fluid state, through a fine sieve. Take six quarts of the fine lime and one quart of clean rock salt, for each gallon of water—the salt to be dissolved by boiling, and the impurities skimmed off; to five gallons of this mixture, salt and lime, add one pound of alum, half a pound of copperas, three-fourths of a pound of potash, (the last to be added gradually,) four quarts of fine sand or hard wood ashes; add coloring matter to suit the fancy. It should be applied with a brush. It looks as well as paint, and is as lasting as slate. It stops small leaks, prevents moss from growing, and renders wood-work incombustible. *N. Y. Farmer.*

Iron vs. Pear Blight.—At Canfield, in Mahoning county, we saw at the residence of Mr. Canfield, a number of large pear trees, twenty-five to thirty years old, that seemed to have been blighted some years ago, but had recovered. On inquiring of Mr. Canfield respecting these trees, he informed us that ten years ago, when they were quite large and productive, they were struck with the blight, and in two years they were apparently ruined. He then took a quantity of bog iron ore, found in the neighborhood, and applied several wheelbarrow fulls around the trunk and roots of each tree. The following spring the trees put out new shoots with great vigor, and the leaves exhibited a deep green healthy appearance throughout the season. The trees formed new tops, and have continued healthy from that time to this, excepting one or two, the trunks of which had partly died before the remedy was applied. *Ohio Cult.*

ANSWERS TO CORRESPONDENTS.

Sea Kale.—*Wm. Bachelder*, (North Andover. Mass.) Sea Kale grown in the open air does not need any covering in winter here. In order to blanch the young shoots, we cover them early in the spring with three or four inches of sand, or light sandy soil. You may, for safety in your latitude, do this late in the autumn. The growth of the sea-kale is improved by a top dressing of salt every spring, like asparagus.

Pear Seedlings.—*C. B.*, (New-Jersey,) will find it very difficult to have success in raising pear seedlings by the quantity. A rich, moist soil of much depth, and one especially adapted in its inorganic elements, is absolutely necessary for this crop. Here and there a grower is successful from possessing this soil, but it is rarely found in the middle or southern states.

Wm. B., (North Andover.) The seeds of common engrafted field pears, that are perfectly vigorous and healthy, give the best stocks for budding upon.

Selections of Fruits.—*A Subscriber*, (Philadelphia.) The five best plums for your purpose are the following: Jefferson, Green Gage, Imperial Ottoman, Coe's Golden Drop, Purple Favorite.

B. P. R. The *Fastolff* is rather larger than the true *Red Antwerp* Raspberry, but it is not higher flavored, and is softer, and does not therefore endure carriage to market so well. It bears most abundantly with us.

Quinces.—*A Jerseyman.* Prune Quinces very little—let them form low, thick bushes, and manure them well every year. A good top-dressing of manure and ashes, every autumn, will double the size of the fruit.

Tomatoes.—*A Vermont Reader.* Train your plants on the south side of a wall, building or tight fence, and you will find them to ripen two weeks earlier. The *cherry* tomato is an early sort, and one of very mild flavor.

Manures.—*An Inquirer*, (New-Bedford.) You will double or quadruple your charcoal in value if you will have the urine poured over it. The ammonia and salts of the latter will all be absorbed by the charcoal, to be given out to the roots of plants afterwards as required.—*A. R. C.*, (New-York.) You will find it much the better mode to *dissolve* the bones before using them. There are full directions for this in our last number, p. 93.—*J. B.*, (Philadelphia.) Apply the gypsum as a top-dressing to your trees in the month of October. Fork it under the surface very slightly.

Arbor Vitæ.—*A Young Hand*, (Westchester.) Gather the seeds in October or November, and plant them immediately in a deep, well pulverized border, on the north side of a board fence; or, (which is the better mode,) in flat shallow boxes. (three inches deep and two by three feet across,) filled with good light soil. These boxes should be put in a light place, the cellar or in a cold pit, till spring, being watered occasionally to keep the earth moist. In the spring, they should be placed in a place shaded, except from morning and evening sun, and well watered every evening. In this way you will save all the seedlings, which if planted in the open border, more than half are usually lost the first year. Once large enough to transplant into the nursery rows, they will grow in any exposure. Seeds of the Laburnum should be planted immediately in any open situation in good soil.

Strawberries.—*Fragaria*, (Boston.) The spring is the preferable time for making new beds, only because the plants are more certain to grow then. There is a new *white* strawberry grown in England, called the Bicton Pine. Will some of our nurseymen import it? Ross' Phœnix is a very improved variety of the Keen's seedling; but though it bears large crops of very delicious fruit in light and deep rich soils, yet so far as we have seen it, it does not thrive well in heavy or stiff soils. *Burr's New Pine* is considered the best of Burr's seedlings. If you have charcoal dust in abundance you cannot do better than to cover your beds one inch thick in November, and allow it to remain on all the next season.

Evergreens.—*A. Y. H.*, (Westchester.) The best time to remove evergreens in our judgment, is in the spring. Small plants will do quite well if taken up in the fall and laid in earth, as you propose, in a dry cellar, till spring. The evergreen magnolia, (*M. grandiflora*,) will not stand the winters north of New-York.

Lawns.—*I. Williams.* One part white clover to three parts red-top, makes the best lawn grass mixture for a soil like that you describe. If you wish to preserve its greenness in summer you must *trench* the soil so that the roots may penetrate two feet deep; it cannot be done by top-dressing.

Pear Trees.—*A North Carolinian.* Keep the surface of the ground under your trees coated with straw, litter or shavings several inches deep. This will keep the roots in an uniform state of heat and moisture. See Mr. Cleveland's remarks on the subject in this number, and those of a *Maryland Subscriber* in a previous one. Nothing injures delicate fruit trees so much at the south as the heat of the sun, and the alternate dryness and moisture of the surface of the ground.

Grapes.—*A Vigneron*, (Ohio.) The rot in the Catawba grape has also appeared in this part of the country this season. The nature of this disease is little known, and no certain remedy has yet been discovered. The only information we have of any satisfactory experiment on this subject you will find in the article of a correspondent in a previous page. The *Bland* grape is a shy bearer, and would not be profitable for market.

Nurseries.—*H. B.*, (Philadelphia.) We have no connection, either direct or indirectly, with any nursery establishment or commercial garden. The "Highland Garden" is simply the name of our private grounds. *T. C. Peters.*—We have sent your letter to a respectable grower in New-York, who will send you the plants you wish.

Imported Evergreens.—*A Subscriber*, (Pittsburgh.) The best time to have Norway spruces and other hardy evergreens, sent from abroad, is during the month of October, or as early as they can be lifted in the nurseries there—say from the 1st of October till the 10th of November. They should be packed in *dry moss*, and put up either in

matted bundles or crates. When they arrive at Pittsburgh, if the ground is not open, unpack and carefully lay them in by the heels in a sheltered and shaded place, (treading the earth firmly about the roots and burying them deeply,) and then cover them with a temporary rough box or shelter of boards. If the ground is frozen, unpack and lay them in, in the same manner, in a cellar or root house till spring. If they arrive at New-York too late for transportation inland, have them unpacked and laid in the same manner there, till the spring opens. Any ordinary November frost would not injure them while they are in the bundles or crates.

Okra.—*Long Island.* Take the young pods of okra and stew them in water, to which a little butter, pepper and salt have been added, till they are quite tender. Then serve them up with a very little grated nutmeg.

Paradise Stocks.—*J. R. Stanford,* (Clarksville, Geo.) The "Paradise Apple" is a dwarf growing variety, common in the nurseries abroad, and used for grafting other varieties upon, to make them dwarf. Young paradise stocks can be had of any of the leading English nurseymen, (Skirving, of Liverpool, Rivers, of Sawbridgeworth, &c.,) at a moderate price per thousand. We are not aware that they are grown for sale by the trade in this country, but if so, will be glad to learn where.

Evergreens.—*James,* (Hartford.) Give the soil about your young evergreen trees which are "stunted," a top-dressing of nitrate of soda, at the rate of 1 lb. to the square rod, early next spring. This will start them into luxuriant growth again. Stir the soil 6 inches deep just before applying the salt.

Budding.—*J. C. Marston,* (Canada West.) Buds for budding may be packed in damp moss and kept a week or ten days without material injury. The buds of the apple may be kept longer. The moss must not be *wet*—only damp.

*** Correspondents who are *subscribers,* will hereafter find replies to any questions on subjects within the scope of this journal, in this department, (unless otherwise requested)—and all queries put in a *brief shape,* and sent to us *free of postage,* shall receive attention. Ed.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The stated meeting of the society was held in the Chinese Saloon on Tuesday evening, August 15, 1848. The president in the chair.

The display of fruit far exceeded any former monthly occasion of the society, and betokened a most prolific season, and a harbinger of a successful effort at the grand autumnal exhibition a month hence. The grapes were unusually fine, the bunches of great weight, and berries in most instances, very large. Some of the Black Hamburg, from H. W. S. Cleveland, Burlington, were, for size of berry, remarkable; others of same variety, from Eden Hall, were very heavy; the White Portugal, White Frontignac and Chasselas of Fontainbleau, were prime. The show of pears was excellent; many were new and seedling varieties, consisting of Ott's Seedling, of fine quality, Trimble, and Jones' Seedling, for the first time exhibited; fine specimens of the Tyson, Washington, Lodge, Copia, Kingsessing, Moyamensing, Petit, Chapman, Napoleon, Dearborn's Seedling, and numerous others, of which many were unnamed. Of apples, several beautiful seedling varieties were seen, and others shown for the first time, of which were the Shepherd variety, and the 20 acre, said to possess fine qualities, Red Juneating, Bough, Summer Pearmain, Hagloe, Harvest, Maiden's Blush, &c. &c; specimens without blemish. Plums,—fine fruit of the Huling's superb, Bolmar's Washington, Golden Drop, Imperial Gage, Apricot Plum, large Blue and Green Gage. Nectarines,—beautiful specimens of Vermarsh, Oatlands, New White Downton, Newington, Red Roman, Boston, Elruge, Fairchild and others not named. Peaches,—Scott's Seedling, Crawford's Melocoton, Noblesse, and several seedlings of merit. A dish of fully ripe Bananas from the green-house of James Dundas, attracted attention. Of vegetables, the display was uncommonly rich in quality and variety. And of plants, there were several tables of choice collections, unusual for this month, with many tastefully arranged bouquets of cultivated and native flowers.

Reports of the Standing Committees.

The Committee on Plants and Flowers report that they have awarded the following premiums:

For the best three named hot-house plants, to B. Daniels, gardener to C. Cope; for the 2d best do, to the same. For the best three green-house plants, to Robert Buist. For the best collection of plants in pots, to B. Daniels, gardener to C. Cope; for the 2d best, to Peter Raabe; for the 3d best, to David Scott, gardener to Frederick Lennig. For the best display of indigenous plants in pots, to Robert Kilvington. For the best bouquet or design, to Robert Kilvington. For the best design of indigenous flowers, to Peter Raabe. For the best basket of cut flowers, to B. Daniels. For the best basket of indigenous flowers, to Robert Kilvington.

The Committee for awarding premiums on Fruit, report that they have awarded—for the best three bunches of black grapes (Black Hamburg,) to H. W. S. Cleveland; for the 2d best do., to Jacob Snider, jr. For the best white grapes, three bunches of White Portugal, to Thomas Maghrau, gardener to Mrs. Gumby, Montgomery county; for the 2d best do, White Frontignac, to B. Daniels, gardener to C. Cope. For the best nectarines, six, to John Sherwood; for the 2d best nectarines, New White, to B. Daniels, gardener to C. Cope. For the best six plums, Green Gage, to Isaac B. Baxter; for the 2d best plums, Washington, to the same. For the best two dozen peaches, Crawford's Melocoton, to John Perkins. For the best six pears, Tyson, to Jonathan Tyson; for the 2d best do, Washington, to Edwin Middleton. For the best two dozen apples, Summer Pearmain, to Jno. Perkins; for the 2d best do, Maiden's Blush, to the same. And a special premium of three dollars, for the Ott Pear,—a new variety from Montgomery county, to Samuel Ott. Also, a special premium of two dollars for a dish of superior Bananas, to James Buist, gardener to James Dundas; and one of three dollars, for three splendid varieties of grapes, deposited by Isaac Newton, grown by Wm. Westcott, at Eden Hill.

The display of fruit was greater in quantity, and variety, than ever shown before the society in the month of August. Among them were a number of new seedling varieties presented, though exceedingly fine, could not come into competition, on account of not having the requisite number. The committee would especially notice some fine canteloupes, and award a special premium of one dollar for the kind named Beachwood, shown by B. Daniels, gardener to C. Cope.

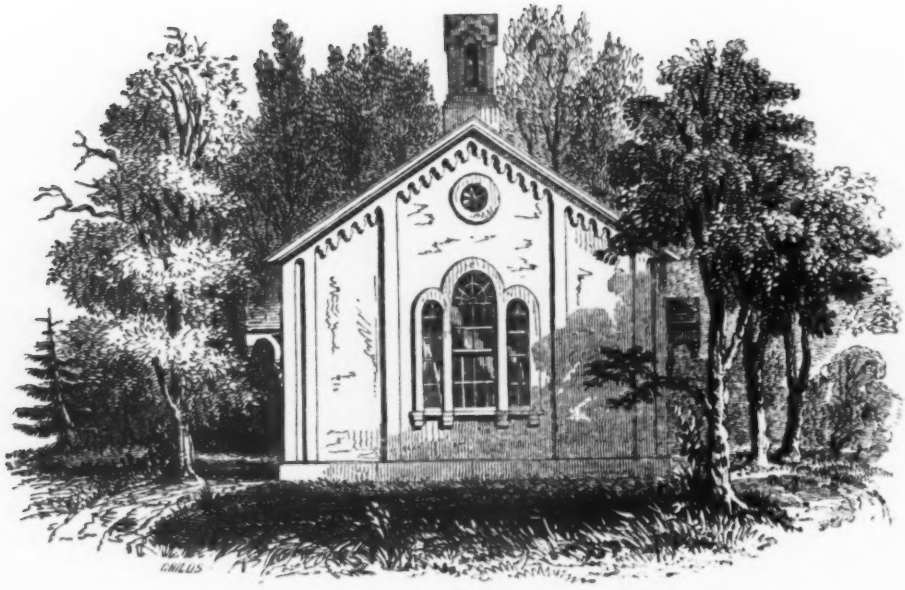
The Committee on Vegetables report that they have awarded the following premiums:

For the best display of vegetables by market gardeners, to Anthony Felten; for the 2d best display, to Henry Cooper. For the best display of do. by amateurs, to B. Daniels, gardener to C. Cope; for the 2d best display of do., to Isaac B. Baxter. On motion,

Ordered, That the number of delegates, from our society, to attend the great National Convention of Fruit-Growers, to be held in the city of New-York on the 10th October next, be increased to twenty-five.

A communication from the corresponding secretary of the New-Jersey State Horticultural Society was read, reporting the appointment of delegates to our autumnal exhibition, and inviting a reciprocity.

Tho. P. James,
Recording Secretary.



DESIGNS FOR RURAL SCHOOL-HOUSES

[From Barnard's School Architecture.]

VIEW IN THE MEADOW PARK AT GENESEO.